THE MODEL OFFICE PROJECT: REPORT ON THE PUBLIC CONSULTATION PROCESS

Submitted to:

Mines and Minerals Division
Ministry of Northern Development and Mines

Submitted by:

Prior & Prior Associates Ltd.

May 14, 1996

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1.
FOCUS GROUP SESSIONS

Purpose and objectives

The focus sessions arose out of the need for increased public consultation for the project, and the project scope and schedule was revised to include four focus sessions around the province. The sessions were designed with the following objectives in mind:

1. to identify client needs and requirements for the products and services provided by and accessible from the Mines and Minerals Division's field offices, including:
   - resident geologist offices
   - mining recorder offices
   - mineral development offices
2. to evaluate the current level of client and user satisfaction with MMD products, services and delivery mechanisms.
3. to explore options and alternative means of delivering and accessing MMD products and services
4. to identify the impact of possible changes on clients and users.

Agenda, locations, dates and attendance

Four locations were selected to provide province-wide access to the focus groups and to get the widest possible geographic and industry involvement. The sessions were conducted in the Central (Sudbury), Southern (Toronto), Northeastern (Thunder Bay) and Northwestern (Timmins) regions. Each meeting was approximately one day in length, and facilitated by two consultants from Prior & Prior Associates Ltd.

Agenda

The sessions followed a standardized agenda designed to ensure a high-level of client participation through both plenary presentations and discussions, and in the sub-group discussions.

1. Agenda overview and objectives.
2. Introduction of participants: expectations of participants and MMD.
3. Round-table discussion to identify trends, issues and characteristics facing the exploration and mining community.
4. Client, associations and industry representatives reading of statements into the record (this item was introduced at the Thunder Bay focus session)
5. Identifying client business needs for MMD's products and services.
6. Client evaluation of MMD's products and services.
7. Client recommendations for alternative service delivery approaches.

Sessions

The following table outlines the locations, dates and number of clients attending each session.

	Location	Dates	# clients
1.	Sudbury	January 22	7
2.	Thunder Bay	January 31	18
3.	Timmins	February 14	26
4.	Toronto	February 15	13

Lists of individual participants can be found in the appendix.

MMD staff were invited to participate in the opening stages of the meeting with clients to provide an opportunity for both clients and staff to engage in the initial discussion items. At the opening of the second consultation (Thunder Bay), four clients requested an opportunity to make brief presentations regarding their and their organization's views on the Model Office project as well as the role of MMD and the needs of the exploration and mining community. Participants at each session and individuals making presentations were encouraged to forward their comments in the form of letters and briefs directly to the Ministry.

Profile of the participants

This section profiles the participants and the characteristics of the industry in the various locations where the focus sessions were held. The consultation process varied along three lines:

1. Some sessions were highly charged as participants expressed their attitudes towards the project, especially their anxiety concerning their dependence on the field offices of the Mines and Minerals Division
2. There was some variation in the degree of dependence on the products and services of the Division, usually related to the industry tier within which a client worked and the stage of the mining cycle which they focused on
3. Although there was consistency in points of view on many topics, there were some variations which can be attributed to the different geographic locations, the stage of client involvement in the mining cycle, and the size of each client's organization (independent prospector, junior mining company, major mining company)

Participants represented all tiers of the industry and all types of work in the exploration and mining community (i.e. prospecting and staking, consulting, investing, junior exploration and mining companies, mid-sized producers and major mining companies). The attendees represented businesses and associations that are predominantly engaged in the exploration (as opposed to production) stages of the mining cycle, and a small group of consultants who rely on MMD for geo-scientific information (ie; tectonic geologists, geoscience researchers, and investors). In Toronto and Sudbury, the representatives were predominantly employees working in the exploration and production functions of large mining companies or association representatives.

The consultants facilitating the meetings were particularly impressed with the largely positive view clients expressed concerning their relationships with MMD. The strong emotional and sometimes negative positions of the participants largely pointed towards the recent and anticipated impacts of government's downsizing and the elimination of incentive programs. In Thunder Bay, Sudbury and Timmins, strong concerns were expressed about the potential negative impacts of reducing MMD's field organization and therefore reducing the availability of services and resources to the industry . The Thunder Bay and Timmins clients were emphatic about the potential negative impacts of MMD reductions because of the singular dependency of local communities on both the exploration business and the potential loss of community based employment and the incomes of government employees residing in local communities.

The consultants (and the Model Office project) were regarded as "government henchmen" hired to give an impression that the consultations were seeking token client involvement when the decision's regarding restructuring and downsizing were really a foregone conclusion. Throughout the consultations, the consultants established and followed a clear position; that to their knowledge, the Model Office project and the client inputs from the consultations are in fact, a key element in assisting the government to make its decisions.

Although a few clients left the meetings early to express their objections and to protest the government's current policies, the general position of the participants was that these consultations were the only opportunity to influence the Division's future. Participants in all sessions were encouraged to forward additional individual comments directly to the Ministry..

Once these issues were raised and addressed, the attendees participated in detailed and constructive discussions to:

- examine MMD's products and services
- explore alternative service delivery mechanisms
- develop solutions to mitigate negative impacts rising from restructuring decisions.

In the focus sessions and in the responses to the survey questionnaire, clients objected to the focus of the Model Office Project in that it targeted reductions in field operating costs rather than head office operations. The majority of participants indicated that the Division should include capital expenditures and facilities leasing and maintenance costs in the downsizing equation so that the reductions could be spread to other cost items to minimize the impact on direct service delivery functions.

The feeling was that if information systems and facilities expenditures could be rationalized, the Division would be able to preserve the personnel-dependent functions that the clients need most. ERLIS, the MMD Sudbury headquarters and the facilities housing the Drill Core Libraries were cited as expensive, non-value adding capital and facilities costs that have taken operating budgets from more valuable field services functions.

Regional differences

Differences in geography, geology, stage of development and other factors were outlined to the consultants at each of the focus sessions, providing a clearly different profile of the industry in various parts of the province. From a summary perspective, the following profile emerged:

Central region (Sudbury/ Sault Ste Marie/ Cobalt)	Central region is dominated by the majors who retain prospectors and geologists to undertake detailed assessments, staking, etc.. Clients are supportive of automation generally while recognizing the limitations of the current operations. They also supported map staking and were not overly concerned about downsizing due to the local presence of the Ministry in Sudbury.
Northwestern region (Thunder Bay, Kenora, Sioux Lookout, Red Lake)	This region has a maturing mining industry presence spread across an immense geographic territory. The focus group reflected a balance among majors, juniors and independents. Prospectors were concerned about the encroaching nature of automation and map staking. On the other hand, there is a growing concern in this region that the quality and accuracy of ground staking is declining. The region has a growing quarry business. Focus group participants felt that the change of government in Ontario to a pro-business stance will renew the interest of junior and major mining companies to invest in northwestern Ontario.
Northeastern region (Timmins, Kirkland Lake)	This region is dominated by existing mining camps and mining dependent communities. It has a robust early stage exploration community with a significant numbers of independent prospectors. Prospectors in the session felt that big business is favoured by the Ministry. They said that the significant level of activity in these offices should lead to expansion or retention of district facilities rather than a reduction. They were adamantly opposed to map staking and ambivalent to hostile about ERLIS.
Southern region (Toronto/ London/ Tweed)	This region is heavily focused on the industrial minerals and quarry side of the industry. Mining land is most privately held. Toronto is considered the capital of the mining industry in Canada and, maybe, in the view of some participants, the world). Most investment funds are arranged in Toronto. This region contributes 30% of the mining based revenues of the province (since many head offices of mining companies are in Toronto). Focus group participants were very favourable to the use of electronic information technology in exploration activity.

Major points of concerns

The following points were repeatedly cited in the focus sessions and follow up telephone calls:

ERLIS	ERLIS is no substitute for the assessment files. Its data (assessment files) is not current and it doesn't work. Too much money has been spent on it. It is not broadly available. Prospectors expressed the view that if the resident geologists don't use ERLIS, why should they?
Paper assessment files	These files are *critical* to all parties in paper form. Assessment files, in the eyes of some, were more important than the resident geologist. A number of independent prospectors indicated that if they did not have access to paper assessment files in their district, they would be forced out of business.
Geological consultations, expertise, property visits and mapping projects	All of these services were highly valued by all clients. Their reflections included both the resident geologists office staff and geologists from the OGS. Local libraries associated with individual offices were well regarded.
OGS mapping	OGS mapping is highly regarded within the province and internationally. OGS maps are viewed as a significant competitive advantage of the province. Some participants expressed concern that mapping coverage and quality could be negatively affected by cutbacks.
Business networking	This service of the resident geologist is highly valued by prospectors and junior mining companies.
Map staking	This trend in defining the boundaries of mapping claims is *vehemently* opposed by the prospectors and their associations. It is favoured largely by major mining companies. Peer pressure caused some attendees at the northern meetings to express their support of map staking privately rather than publicly.
Role of the division	The health of the industry (a major source of wealth to the province) is considered to be directly related to the role of the Mines and Minerals Division in the province. Even though most recognize the need to reduce government expenditures, there was universal agreement that it should not come at the expense of the field organization and those who rely on it to carry on the business of mining.

Trends and issues

The most emotional and vehement comments occurred during the issues part of the focus sessions. In the northwest and northeast, the comments were colourful, strongly expressed and often negative. They were usually very personal to the individual's involvement in the industry. In the central and southern sessions, the trends and issues addressed were broader based, covering issues affecting the provincial and international industry as a whole, and more often reflecting financial and investment considerations.

Trends and issues identified across the four focus sessions have been compiled in the Table 1-1. An indication has been provided as to whether they were expressed in one or more of the four focus sessions. A brief description of each trend or issue follows the table.

Table 1-1. Trends and issues

Trend or issue	*Sudbury*	*Thunder Bay*	*Timmins*	*Toronto*
Trends				
• strategy towards automation	x	x	x	x
• focus on map staking	x	x	x	x
• trend towards modeling vs ground prospecting	x			
• increasing exploration activity		x		
• tendency to downsize in Southern Ontario despite significant revenues				x
Issues:				
• increasing administrative & bureaucratic red tape	x	x		
• land alienation through aboriginal claims	x	x	x	x
• more predictable regulatory environment	x	x	x	x
• reserves dropping	x		x	
• high cost of business (particularly, energy costs)	x		x	x
• quality of ground staking deteriorating		x		
• interprovincial competition		x	x	
• growth of quarrying and industrial mineral development		x		x
• resident's functions too administrative			x	
• certification biased to engineers			x	

Automation	Automation is expected to be a major factor in the industry's exploration ability in the future. The majors are interested in more direct access to OGS and ERLIS data. Raw or original information is preferred, although many comments were made about the advantages of the Quebec abstract approach
Map staking	Map staking was generally positively received in the Sudbury and Toronto sessions; it was vehemently opposed in Thunder Bay and Timmins. Many comments were made to indicating that map staking is inevitable. It is considered to have extremely negative effects on the prospecting community by eliminating ground staking. Participants feared that it would significantly upset the dynamics of the three tiers of the industry
Less support in southern Ontario	Participants at the Toronto session felt that regardless of the overall downsizing strategies of the Ontario government, that reduction in services was already underway in southern Ontario. In particular, they noted the reduction in staffing for the mining recorder function.
Administrative and bureaucratic red tape	The number of approvals and regulations seems to be increasing. Jurisdictional segmentation over different minerals (eg, quarries with MNR) and over regulatory roles smacks of too many regulators with uncoordinated mandates and different attitudes towards the industry.
Alienation through aboriginal claims	Participants were more concerned about the government's failure to set the rules of the game, rather than complaining about the land claims themselves. Comment periods on claims delay exploration. Band decisions may be overruled by a ministry putting the exploration and mining companies in direct conflict with the aboriginals. The majors feel they are better off addressing claim issues themselves rather than relying on government facilitators who appear to back away from controversial issues.
More predictable regulatory environment	A number of participants indicated that, with the change in government, they were anticipating a more predictable regulatory environment which would support exploration and mining. Such a change would provide a significant competitive advantage for the province. While burdensome, the trend towards self regulation in Ontario was seen positively. Some majors commented to the effect that Ontario was losing its competitive position due to some regulatory issues (eg, locating diamond drill holes and the arbitrary creation of buffer zones).
Ontario's high costs	The high cost of doing business in Ontario was frequently cited by the majors. This is caused by the regulatory environment from the previous government and such items as energy, where they claim the cost of energy from Ontario Hydro is 30% higher than other Canadian jurisdictions

Quality of ground claim staking	The quality of ground staking has been undermined by the elimination of the claims inspection function and the prospect of centralizing the mining recorder function. Although map staking could resolve this problem, participants in the Northeast and Northwest sessions strongly opposed this solution because of its potential for significantly upsetting the competitive balance among the three tiers of the exploration industry.
Inter provincial competition	Concern was expressed that the policies and procedures of neighboring provinces would need harmonizing if Ontario is not to lose ground to Quebec and Manitoba
Quarries not part of the Ministry's mandate	The fact that quarries are regulated by MNR was repeatedly expressed as a problem to the mining industry.
Role of the resident geologist	While there were other contexts for the discussion of this function, the Timmins meeting drew attention to the fact that the resident currently performs a number of functions which add little or no value to the industry. These include a significant burden of internal administrative reporting and the support of land use planning reviews.
Certification biased towards engineers	Consulting geologists felt equally qualified to engineers in the provision of environmental certifications. They felt deprived of income opportunities

Mineral development program

The mineral development function operates out of Sudbury with two coordinators in each of Kenora and Timmins. The function of the mineral development section is the promotion of the industry and the facilitation of the approval process for advanced exploration and production activity. Representation from the client base of the mineral development section was generally weak (nonexistent in Thunder Bay and Timmins). In Toronto and Sudbury, most of the major and junior companies had been operating in Ontario for many years and were not heavily dependent on this program.

After the focus sessions, the consultants made a series of telephone calls to clients of this function. Businesses outside of Ontario indicated substantial support for this function as it is offered through both the Sudbury and field offices. Positive feedback was forthcoming from all contacted except from the Ministry of the Environment and Energy, where they praised the efforts of the individual coordinators, but felt the one window function was a failure.

Evaluation of individual functions

Observations on the individual functions from the perspective of how well they meet the business needs follow.

One window permitting

This service is generally considered weak and ineffective. This perception seems to stem from a misunderstanding of the program's function. The service identifies and opens doors to other regulatory programs rather than single handedly issuing and approving all permits, etc. Clients were very critical of the approach of MOEE and MNR, specifically in their failure to coordinate their mandates.

Facilitating relations with aboriginal communities

The need for facilitation and coordination between the industry and aboriginal communities is considered critical to the land tenure and land access requirements of the industry. Clients were quite critical of the provincial and federal government activity in not settling claims. Clients felt that the Mines and Minerals Division role in the northwest in this regard must continue.

Technical advice and inspection on production & rehabilitation

Few clients expressed an opinion on these functions; the Ministry is seen as a service provider rather than a regulator or enforcer in these matters

Promotion and development

Strong support was voiced by a few participants that the mineral development promotion and investment facilitation role is extremely important to small producers, particularly the industrial minerals companies. This observation was also borne out in the telephone interviews.

Administration of grants and incentive programs	The recent curtailment of this program by the Ontario government was seen as shortsighted at a time when the province is trying to re-establish its credibility with the mining industry.

Recommendations on alternative service delivery/ improvements

The following recommendations were made by participants in the focus groups.

One window permitting	Eliminate the role in favour of an inter-ministerial coordinator of the exploration and mining regulatory functions, specifically regarding reclamation, rehabilitation, environmental control, industrial minerals, aggregates, and quarries. Oil and gas was also mentioned in this context
Aboriginal claims	Resolve existing aboriginal claims and establish a consistent policy and decision criteria for the approval of work permits on land claimed by aboriginal first nations.
Streamline the permit process	Consolidate related work permits in one agency. Shorten approval timelines. If MNR is to remain in control of the regulatory functions, it must learn more about the industry.
Eliminate the technical advisory function	Have producers use external consultants.
Priority of mineral development monitoring and promotion	This function should have a lower priority to other MMD functions. If budget cutbacks are as severe as rumoured, assign mineral development funding to the OGS.
Centralize mineral development program	Many participants felt that the program could be delivered from Sudbury. This observation was not borne out by the telephone interviews, where most responses felt that face to face contact was important to negotiations.

Mining recorder program

The mining recorder program consists of nine field division offices, seven of which are staffed by a mining recorder and two of which share a recorder (Toronto and Red Lake). The function was expressed as operationally and functionally necessary. The views on the quality of service and advised ranged by office. For the most part, the focus session participants felt that this program which is largely administrative and, therefore, could be delivered centrally from Sudbury.

Evaluation of existing products and services

The evaluation and position of the participants is as follows.

Claim staking & claim information

Participants reinforced the industry's need for the security of mining lands title. Up to date information is secondary to security of title. The division is perceived to be providing very good service in recording and maintaining mining claims.

Availability of claim maps and abstracts is considered very important; There was concern expressed about:

- the end-of-day update of the claims system
- the lack of standard scales for claim maps
- the fact that some mining recorders inform clients about exploration activity which was seen as a conflict of interest

Some clients requested access to AC/Maps on a province wide basis, perhaps as a layer in ERLIS

Dispute resolution

The informal, on site claims resolution function performed by mining recorders is highly regarded. Some clients feel that the face to face relationships enjoyed currently cannot be replaced by long distance; others expressed concern that the elimination of the claims inspectors will catch up with the ministry as the quality of ground staking deteriorates.

Interpreting the act and regulations

This is viewed as a necessary function because of the lack of clarity in the policy and the failure of the Division to declare the rules. Comments varied from office to office. Personal relationships with staff appear to influence the opinion of clients

Filing assessment reports

The assessment process is well supported both as a regulatory function and as the basis for assessment credits. The process is considered too lengthy, and most head office decisions could be administered locally (although there was concern about provincial standards in assigning work credits). The process needs to be streamlined, forms redesigned, and a wider range of options for submissions approved. There was criticism of the manner in which assessment credits could be assigned from adjacent sites.

Publications, claim tags, licences and print outs	All of these functions were considered necessary, but not all needed to be delivered via the mining recorder function

Recommendations for change

The recommendations for change are many and wide ranging:

- reduce management overhead
- consolidate the mining recorder divisions with the resident geologist district offices
- consolidate the administrative functions for the Mining Lands Branch and the OGS
- incorporate ACMaps and OBM maps into ERLIS
- eliminate all field level functions except for administrative receipt of claims and assessment report
- establish and publish clear policies and rules for staking and assessment work.
- establish a 1-800-CLAIMS information line - ensure standardization and consistency of responses
- increase the speed of decisions on approvals of claims and assessment work and simplify the rules and administrative processes and forms
- use the resident geologists to approve assessment work reports for their respective geographic areas and for all geoscience and geological approvals (eg diamond drilling).
- enable province wide access to claims and assessment work reports from local offices
- ensure that all assessment work is recorded, irrespective of whether it is necessary to the assessment crediting and approval process
- centralize (to regional or provincial locations) the claims and work reports approvals point and ensure consistent, reliable telephone access to this information
- examine and off-set the problems of companies retaining long-term holdings of land by applying assessment credits from other locations.
- digitize the claim maps; enable digital filing of claims and assessment work reports from any location

- consider privatization of the sale of claim tags and prospector's licences
- create a property-level claims inspection option to handle disputes and prevent disputes from proceeding to formal hearings
- maintain local mechanisms for clients to access claim maps and abstracts
- ensure claims maps and information is up-dated daily and that these updates are available in all client access locations; announce and post the availability of claims that become eligible for staking
- establish standardized claim blocks
- establish a mechanism to ensure that physical staking is conducted in a standardized and reliable manner.

Resident geologist program

Most of the functions of the resident geologist district offices are highly valued by the clients in all locations. There was general opposition to the idea of reducing the number and location of resident geologists offices.

Evaluation of products and services

The following summarizes the client assessment of the products and services:

In ranking field services, access to the paper records was second only to the land tenure role of the mining recorder function. ERLIS was universally considered a poor and unacceptable substitute at this time, because of the lack of up recent files, the lack of files that some field offices hold and the problem of working onscreen with scanned maps.

The assessment information is the basis for researching opportunities and avoiding possible duplication of exploration and assessment expenditures. Clients were keen to see the current system retained and all information submitted to ensure completeness of the files. Assessment files contribute to Ontario's competitiveness in the exploration and mining industry. While the Ministry has no intention of removing the paper files in favour of ERLIS in the next five years, the Division's clients expressed the fear that they might eventually disappear without an adequate replacement.

ERLIS

ERLIS is valued by some independent prospectors and consulting geologists, and to a larger degree, junior and major mining companies. Its main strength is its ability to support wide area surveys through its indexing capabilities. Participants view it as unfriendly, incomplete and not generally accessible across the province by all.

Representatives of the larger companies see ERLIS as the way of the future. Many prospectors felt that this future was possible after current problems are remedied. Prospectors reflected on its potential impact on ground investigation, fearing that technology might replace them, or reduce the opportunities to work with hard copy files, reports and maps. The possibility of financing the continued maintenance and updating of ERLIS through user or subscription fees was not well received

Geological consulting and property visits

Geological consulting service in the districts requires an excellent knowledge of local geology, mineral occurrences, previous exploration history and so on. The resident and staff geologists were considered to be irreplaceable in this role. Their supplementary role of facilitator of business networking is also highly valued in providing referrals, providing objective geological data on properties being optioned and generally being the hub of information about local trends and opportunities. Many clients stated that without the resident geologists they would not be able to function and that Ontario as a mining community would be a poorer place.

Surveys, maps, reports and publications

This information is largely provided to the resident geologist offices through the OGS. Access to this documentation is extremely important, but it was generally recognized that for the most part, it could be provided through other means and access points. This was not the case with regard to the Mines and Minerals Information Centre in Toronto, which was considered an invaluable source of industry reference material for the whole province. The private documentation collections of individual resident geologists were also rated highly

Drill core libraries

Most clients placed a value on the drill core libraries from the perspective that they should be preserved, maintained and accessed at the lowest possible cost. In every group, a couple of participants felt the libraries were invaluable, probably reflecting their personal investigation methods. Many felt they should have been established as less expensive core farms rather than the protected and costly facilities they currently occupy.

There was a strong feeling that the capitalization and ongoing operational costs for drill core libraries be reduced as much as possible.

Public information & educational services

These services received the lowest rating of all functions provided by the resident geologists offices. There were, nonetheless, independent prospectors at the focus groups who were grateful for the prospector training they received from the division. Many participants thought these services could be provided by prospectors associations (prospectors courses), and educational institutions (information about the mining industry and its contribution to the economy of northern Ontario). The annual symposium hosted by the OGS was considered to be very valuable. Some participants thought that some of the costs and organizing effort associated with it could be borne by industry associations.

Potential improvements to service delivery

Recommendations for improvements raised in the focus sessions included:

- retain the hard copy assessment files
- increase the investment in ERLIS to make it more usable and broaden its information bases by incorporating:
    - claims information
    - drill hole and lithochem databases
    - EM and magnetic data sets
    - file printouts to accurate scale
    - ability to transport data to PC spreadsheet software
    - ACMaps
    - improved indexing
    - panning capability for specific property level analysis
    - publish on CD- ROM and consider online access.
- retain the role of the resident geologist with regard to geological consultation and networking
- devolve OGS field mapping personnel to the field offices
- eliminate the Division's assay laboratory
- retain the drill core libraries and access to them; reduce related expenditures where possible
- eliminate the resident's role in land use planning for municipalities, prospectors courses, public education and symposia preparation
- assign approval for assessment work to the residents' offices
- increase the number of access points to geological and assessment information
- Dryden was suggested as an offset to the potential loss of the Red Lake, Sioux Lookout and Kenora offices
- consolidate Sault Ste Marie with Sudbury and Cobalt with Kirkland Lake (move the Cobalt assessment files to the drill core library)
- consolidate London and Tweed in Toronto
- the province should introduce and enforce an amethyst grading practice to assist the industry in becoming more competitive in this area on a world wide scale

- terminate the statistical reporting for mineral analysis
- devolve the responsibility for industrial minerals to the regional offices
- return the mineral deposits function to the resident geologists
- reduce expenditures in administrative and head office overheads before cutting valued field services function.

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2.

THE SURVEY QUESTIONNAIRE

Introduction

This chapter addresses the results of the survey questionnaire circulated through the province's mining industry associations. The chapter contains large sections covering the questionnaire itself, the tabulation of the first 39 questions, the compilation of the comments to questions 40-44. Rather than put the larger sections into the appendices, we have elected to contain them within the body of the report.

Purpose and distribution approach

When the focus sessions were being set up, it was clear that not all of the Division's clients who wanted to provide comments to the Model Office Project would be able to do so through the four focus sessions. The survey questionnaire was developed in response to this requirement. It was attached to a letter from Prior & Prior Associates Ltd. inviting representatives from the industry to attend one of the four focus sessions.

At the direction of the Ministry, it was decided that the questionnaire should be distributed via the existing mining industry associations in Ontario. The Mines and Mineral Division offices in the field (mineral development, mining recorder and resident geologist) also undertook to make the questionnaire and the invitation to the focus sessions available to their clients. Many called clients directly; others handed out the material to visitors to the office or faxed the package in response to telephone inquiries. Many responses (20-30%) were mailed to Prior & Prior's offices in Toronto from the ministry's offices in the field as a service to their clients. 338 responses were recorded and stored in a database for compilation and analysis. Those received after the data entry was complete (12-15 questionnaires) have been forwarded to the ministry separately from those stored in the database.

In completing the data entry and compiling the responses, there was no instance of an individual submitting more than one form, with the exception of one case where five (5) forms were completed by the same individual representing five different organizations, each with a different business focus. Given the short time for distribution and compilation of the questionnaire, Prior & Prior regrets that some companies or individuals may not have the opportunity to respond or did not receive the form until after the cutoff date.

Questionnaire tabulation

The complete questionnaire as it was faxed to the associations for distribution to their members is contained in the Appendix. An original questionnaire was also forwarded to the Ministry to be copied and distributed to their field offices.

Tabulation (questions 1-39)

The tabulation of the 338 responses is contained in the appendices. No editing has occurred. We apologize for any typographical errors which may have occurred during the data entry activity.

Compilation and consolidation (questions 40-44)

Question 40

Describe any innovative products, field services or alternative service delivery approaches from other jurisdictions which you feel would be worth investigating for use in Ontario. For each innovation, please indicate the jurisdiction.

No. of responses	82/338 (24%)
References to other provinces	Quebec, Newfoundland, Manitoba

The responses of participants to the question on innovative products, services or alternative service delivery methods are compiled as follows. Percentages are rounded:

20% availability of claims and assessment information province wide via fax, E-Mail, CD-ROM, or Internet

20% assessment information available similar to Quebec (abstract and microfiche in all offices)

7% improved mapping services for under mapped / older areas of the province

10% promoted map staking

<5% request new funding/ use of Internet specifically/ improved coordination of native issues

5% the current system is great

The following individual comments were made on question 40:

- prospectors need help
- all province data available from anywhere (eg, assessment files in electronic format)
- index/ abstract/ property owners like Quebec
- would like funding for exploration/ development
- use GIS like Newfoundland
- map staking with monthly billings
- use satellite mapping
- simplify permit forms re MOEE/ MNR
- improve the mapping service
- no map staking
- handle native claims
- record claims anywhere
- put resident geologist/ OGS geologists in the field

- implement digital filing of assessment.

Question 41

If a service were not available in an office you currently use, what are the implications for you or your organization?

- No. of responses 225/338 (66%)

The following summarizes the individual responses, with percentages ranked from highest to lowest.

38% it would add time and travel costs, and result in inconvenience

11% would cease to operate

10% it would be difficult to operate

11% there would be a reduction in amount of exploration in the field

5% go elsewhere (implication outside their area)

4% would have no effect

3% do without

2% happy with the status quo

2% would use alternative service, i.e., fax, Internet

2% no substitute for the current service

<1% not be able to accomplish primary historical research

<1% either Kenora or Dryden would be good alternatives in the northwest

<1% move everything to Toronto

<1% put ERLIS online/ use Internet/ charge fees

<1% one window is a "joke"; poor communications

Question 42

Indicate what could be done to improve the quality of any products or services which are important to you or your organization?

No. of responses 199/338 (59%)

The responses to this question were difficult to summarize as there were so many different comments (46 types of responses). The highest volume responses are listed first.

24% the current service is very good

6% all province access via Internet or CD-ROM

6% complete ERLIS and deliver by PC/ provide a crib sheet/ improve training

4% keep each of the following offices - Sioux Lookout, Kirkland Lake, Kenora, Tweed, Red Lake, Timmins, Thunder Bay, Schrieber-Hemlo, London

4% improve mapping for prospectors/ particularly the Greenstone belt/ ease of publishing

2% provide better access to the drill core libraries

2% put claims on the Internet

2% keep field services as is; provide more

2% put OGS staff in the field

1.5% get MNDM to enact one window processing for all exploration, etc.

1.5% have longer hours

1.5% provide more consistent service

1.5% use paper assessment files or charge a fee for ERLIS

The following have one entry or less than 1%:

- OGS is excellent
- prospectors are important
- face to face in Toronto/ & library is best
- yes to map staking
- provide services in native languages
- reduce land use planing/ administration
- reduce mineral sector analysis branch
- provide more access points to service
- provide a claims terminal in the resident geologists offices
- keep the resident function to minimum
- re-instate the reclamation function and claims inspectors
- streamline the claims processing & permit functions
- include peat moss
- centralize assessment activity
- follow the province of Quebec
- consolidate MNR with MNDM
- put industrial minerals in MNDM
- have more recording offices - suggestion Dryden
- centralize the mining recorder functions
- cut administration
- provide funding incentives
- fix staffing in Timmins/ Kirkland Lake
- implement a credit card for company accounts

- improve the assessment tomorrow
- scrap ERLIS

Question 43

For specific products or services which are important to you or your organization, suggest alternative means of deliver the product or service (e.g. remote access by telephone, faxback mail or modem, privatization).

No. of responses 152/338 (45%)

The following summarizes the responses:

41% use fax, Internet, telephone, mail

20% keep the service as is

9% use Internet

The following have less than 1% each:

- use the paper assessment files only
- investigate video
- privatize drill core
- keep offices open
- have fewer recording offices like Quebec
- re-instate the core libraries
- have longer hours
- do no privatization
- have province wide claims
- consolidate the mining recorder function
- have digital submission of assessment reports
- cut administration
- remember the prospectors/ keep a level playing field
- keep the Toronto library
- go with CD-ROM
- yes to map staking

Question 44

What existing or new services would you or your organization be willing to help fund on a fee for service basis?

No. of responses 160/338 (47%)

39% responding no to additional fees

8% yes to all electronic material

4% yes to maps

Yes for each of the following (individually less than 1%).

- pay a little more fees overall
- access to assessment records
- supply annual updated directory of personnel
- Internet access to ERLIS
- field trips of resident geologists
- Toronto assessment centre
- access to maps, tags, consultation, regulation updates
- to keep Sioux Lookout open
- pay to view all documentation (would expect up to date information/ same as registry office)
- willing to pay for reasonable research provided free now by resident geologist
- colour maps
- faxable claim maps
- could boost publication costs modestly
- if land taxes and municipal tax on claims were reduced, would be willing to pay for claim status settlements and possibly higher staking fees if MAP STAKING were put in place; field staking is expensive and in most cases inaccurate with no responsible for the staker to be accurate
- almost any service
- maps to scale
- a small fee for the core libraries
- online repositories if fee reasonable
- land consultation, assessment file consultation, library access, claims database geoscience library access, public presentations, photocopies, etc.
- property visits
- pay to keep offices in place.

3.

INTERVIEWS WITH OTHER JURISDICTIONS

Purpose and approach

Conducting interviews with other jurisdictions was part of the terms of reference for the Model Office. A number of jurisdictions were suggested by the Ministry, and a few others were added by the project team. Table 3-1 summarizes which jurisdictions and individuals were contacted by telephone interviews.

Table 3-1. Other jurisdictions interviewed

Jurisdiction	*Individual*	*Position*
Newfoundland	Mr. Jim Hinchey	Manager, Mineral Rights
	Mr. Brian Greene	Executive Director, Geology Survey Branch
Nova Scotia	Mr. Rick Ratcliffe (briefly)	Registrar, Mineral and Petroleum Titles, Department of Natural Resources
Quebec	Mr. Denis Fortin	Mining Titles, Ministry of Natural Resources
	Dr. Jean-Louis Caty	Director, Mining Sector
Manitoba	Mr. Sheena Shetty	Manager, Mineral rights
Northwest Territories	Ms. Annette MacRobert	Director, Land Administration Office, Natural Resources and Environment
British Columbia	Mr. Denis Lieutard	Director, Mineral Titles Branch, Ministry of Energy, Mines and Petroleum Resources

Mr. Lieutard handled all communications with BC

Four consultants participated in the interviews:

- George Cargill (Roscoe Postle)
- Hrayr Agnerian (Roscoe Postle)
- Tedd Weyman (Prior & Prior)
- Norah Prior (Prior & Prior).

Messrs. Cargill and Agnerian provided valuable insight on how procedures actually worked in the other jurisdictions.

The interview documentation which follows has been summarized from the detailed notes taken during the interviews. While considerable material was covered during the telephone interviews, only points relevant to the Model Office Project have been included here.

Interview Guide

An interview guide was prepared and reviewed with the Ministry to support the interview process. The interviews were conducted during the month of February, 1996. The interview guide can be found in the appendices.

Province of Quebec

Resident Geologists role

(Interview with Dr. Jean-Louis Caty)

1. How are your resident geologists organized? located?

The resident geologists are organized a bit differently than the province of Ontario. They are located in 7 offices, considered to be the main mining camps in the province. The headquarters is located in Charlesbourg outside of Quebec City. There are four southern offices. The three remaining offices are in the heavily mined northwest area of the province. In the regional offices, the three functions (mining recorder, resident geologist, OGS ore deposit geologist) are treated as one.

One counter function handles the mining titles repository, permits, tags, renewals, claim maps. Some staff operate the geoscience information system for publications. All information is geographically based, and largely automated. Each office has one or more resident geologists and at least one ore deposit geologist. Under the old system, resident geologists and ore deposit geologists could not be distinguished, as they both could do mapping projects.

Today, a resident geologist will manage the smaller offices having as staff:

- a Regional geologist
- a technician (in mineral technology who helps the clients on geoscience inquiries)
- two clerical staff.

In the larger offices, there will be at least four geologists: a resident, two field geologists and one ore deposit geologist. Val D'Or for example, is a large office with 15 staff managed by a regional manager.

There are 30,000 units of work for all offices each year covering a range of media. The units of work occur in the following pattern:

- titles activity - one-third
- consultation, networking and receipt of documents (confidential work) - one- third
- geoscience inquiries - one-third.

A minor change was implemented in April whereby the client services functions in all offices will report separately. The new approach is not activity based, but based on products and services, and is considered to be team based.

There are currently 20 plus field geologists working out of Quebec City. Quebec feels it would be advantageous if they could all be in the regions, but are prevented from doing so by union agreements. These geologists work in the field in the summer. Altogether, there are 52 geologists of which 40 are classified as field geologists.

6. Are field staff involved in land use planning issues, etc.?

They are consulted regularly, but this does not amount to more than 5-10 days per person per year. Parks consultation and native claims are handled separately by the Director, who performs this function personally.

7. Are the following activities provided by your resident geologist function?

- exploration & development consultation (also includes networking) - yes
- drill core library - yes (there are 5, no staff in attendance, not used much, abandoned, not receiving new core)
- publications, library - yes (through client services)
- assessment file and other databases - available in all offices through index, abstract and on microfiche (all updating done out of Quebec City)
- education & training - handled by the Department of Education including prospectors courses which were handed over 10 years ago.

Each office has a client services function, an QGS role which is organized as north and south, a geoscience information function (resident geologist consulting etc.) and a support / financial assistance function. The industry networking which is part of the consultation function is not evident.

At the present time, there is no pressure to reduce the presence in the field. There appear to be a satisfactory degree of service to the client. The overall budget is in the order of $17 million ($5 million in transfer payments). The management structure is light for the QGS: one director and five heads which are currently being finalized.

Electronic Information

1. What data and processes are automated? Are they well received?

There is a multi-year plan to further automate geoscience information at a cost of $17 million over 5 years. The implementation will take 3 years. This will include:

- geology, geophysics, chemistry ore deposit assessment
- drill holes (location/ simplified log)
- replace the index and microfiche for assessment data.

The main system will be in Quebec City. Each regional office will have a client server implementation (implementation targeted for 1996) with server (40 gigs), PCs, fully networked and available to all geologists. The application is developed using ORACLE and Microstation.

The local area information, microfiche and drill hole can be purchased on tape. There is a high purchase level for the Microstation data. The system produces maps directly using 1:20, 1:50 and 1:250 scales. The maps are available in digital and paper form. Every line is intelligent. The imaging will follow later. New maps are produced on demand.

Quebec plans to use its own network until their technology catches up with the Internet.

Publications

1. What types of publications are produced annually:

A promotion list of recent publications is produced regularly. Reports are printed, but they have reduced the number of pages per document to 25. The content and number of figures has been significantly tightened. They can be xeroxed for 25 cents per page. Their annual printing costs appear to be in the order of $15-20,000.

One Window Permitting

1. Does your organization have a one window permitting function, etc.?

No, the department assists in handling requests on an informal basis.

3. Does your ministry play a lead role in mine development?

$5 million is dispensed for advanced exploration through a mixture a variety of grant programs. $1.5 million is given to prospectors in amounts of $3-10,000 annually. Grants to one company can be quite large (one recently for $2.2 million) if they can tie the field and exploration work to a return on investment. The province has 500 prospectors who apply for grants. Many of these are fishermen from the Gaspe.

Aggregates and industrial minerals are handled by head office in Quebec city.

6. Does your organization have a section to provide technical and legislative advice to the industry?

Yes. There is a research centre and laboratory similiar to Lakefield Research, which assesses ore for the public. They have a pilot program in Labrador to do some ore processing. The private sector pays 65% of the costs incurred on any specific service.

The province provides some assistance for public infrastructure - access roads, pipelines and power lines. They have historically provided loans at no interest over 5 years to stimulate job creation. The MDA program has one more year to go, and provides $3-4 million per year. The loan is 100% refundable after 5 years.

Mining recorder function

(Letter from Denis Fortin, February 26, 1996)

1: How are your mining recorders organized, etc.?

"The recorders function is mostly centralized in Quebec City. Decision making, problems and dispute resolution have been centralized because of the pressure that customers exerted on the regional recorder. Documents and requests may be deposited in the seven regional offices. Claim maps, prospectors licences and other products are available through the regional offices.

Each office is open to the whole provincial territory. The volume of work is unevenly divided, with the three offices in the mining region of Abitibi sharing 87% of the volume for new titles and information requests.

On a recent survey, customers expressed a satisfaction rate of 97%. Comments have been received indicating that 3-5% of the clients surveyed, feel that disputes could be resolved more quickly if the recorder was in the region."

Question 2: Is there automated support for the mining recorder function?

Claim recording and renewing is fully automated and performed in head office. The system runs on a mainframe computer which was loaded in 1990. The regional offices are linked for inquiry on the register and for file opening. Response times are fixed at 3 seconds.

3: If centralized, what procedures have been implemented to address the conveyance of documents?

Procedures have been implemented most to identify the first request deposited. Simultaneity is on a daily basis. Requests and notices are time-stamped on deposit and are sent to the central office by courier.

Map Staking

1. Have you considered map staking versus the traditional ground staking process?

Map staking, on a universal basis is our target for spring, 1997. We have had map staking, on a defined portion of our territory since 1976. Map staking eliminates most of the disputes over land coverage. We estimate the cost of land staking to be $3 million per year. Cost of disputes associated with land staking is estimated at $3 million. However, map staking might kill prospecting and we feel we must implement legal disposition to accommodate prospectors.

3. Has the procedure met your expectations?	Map staking, the way it was implemented in 1976 did suit our needs. We intend to implement pre-partitioning of our territory on the basis of one claim every 30 seconds of latitude and longitude. The system is simple and offers the possibility of decentralization in recording of new claims.

Northwest Territories

Mining recorder function

1. How is the function organized?

There are 5 geographic districts headquartered in Yellowknife.

There has been a staking rush which yielded the following numbers of claims:

Year	Claims
89-90	674
90-91	398
91-92	2491
92-93	7505
93-94	9067
94-95	3449
95-96	6700 est.

Each claim is 1500 by 1500 m. Major exploration companies contract out their staking.

Map staking

1. What does your jurisdiction feel about map staking?

Map staking in the Northwest Territories is perceived to be a problem because of ground control. Assessment work must be filed each year. The assessment report is confidential for a period of 3 years. There have been preliminary discussions regarding the use of GPS using the NAD 83 projection system. (One assumes they would be using the federal NTS series of maps for the base mapping.)

Resident geologist

1. How is this function organized?

The geoscience function is provided on a centralized basis through five district geologists and one chief geologist plus one for archives and one project geologist. There is a new directorate being implemented in support of the mining industry called DIAND. They have established a five year joint planning program with the territorial government. The joint program included the federal equivalent of the OGS, the Northwest Territories and the territorial government.

It is anticipated that there will be additional funds to increase the amount of digital mapping prepared, and that some airborne geophysics will be carried out.

3. Do your resident geologists make property visits?	Yes, property visits are carried out in the summer. However, there are many clients visit the offices in Yellowknife for consultation with the geologists.
5. Do field staff do the mapping?	Some field staff do mapping.
6. Are the following activities provided through your resident geologist's function?	• exploration and development consultation - yes, in Yellowknife • land use planning - the residents do not provide this function; it is done with local boards • drill core - a library is located in Yellowknife, and managed by the project geologist; there is no maintenance performed and visits are by appointment only; companies are not required to remove drill core from the site • education and training - they have a shared role with GNWG, teaching in the schools • assessment files and other databases - yes, but the files are confidential for 3 years

Electronic Information

What data and processes are currently automated?	The NW Territories is currently planning a system similar to ERLIS for assessment and mineral occurrence databases. There is currently a single user system for recording claims. They are also putting their claim maps into GIS, on a 1:250 scale.

Publications

1. What publications are provided?	The NW Territories provides a minimal number of publications. There is a yearly exploration overview prepared. Detailed activity is provided by the Ministry every two years. This is accompanied by economic geology reports, maps, and mineral development studies.

One window permitting

1. Does your organization have one window permitting?	There is one window permitting through the land administration division which provides land use permits, drilling permits, etc. The function is carried out totally in Yellowknife. Overlaps involve staff from other departments on a case by case basis, and may address land use, aboriginal rights, and issue permits to companies. This is considered the first window in, but does not address all the authorities.
2. What infrastructure does your agency provide for advanced exploration and development?	This is largely a consultation process in Yellowknife. Most clients are familiar with the processes and territorial land regulations and special permitting requirements.
3. Does your ministry play a lead role in mine development?	Yes, there is one land and two field engineers who address land use permits.

Newfoundland

Mining recorder function

Interview with Mr. Jim Hinchey

1. How is your mining recorder function organized?

There is one recorder's office in St. John's, which is staffed by a Recorder, a geologist, a draftsman and a data entry clerk. The map staking system has been in place for the entire province since September 1995.

Who approves assessment reports?

They are submitted to the recorder, then geologists review them daily before they are sent to publications section for microfiching.

2. Is there automated support for claims registration?

Yes, there is an automated public register operating out of St. John's. Claims and claim maps are updated the same day. The automated system is used to update the claims, after they have been time stamped to reflect the priority of acceptance. Claim maps are updated the same day on mylars and when there is a second office (Goose Bay), they are sometimes faxed out. Claim maps are also faxed out to companies and individuals on request. The St. John's office reported that they can handle 3,000 - 4,500 claims per day with the current system. These volumes cause them to add a second data entry clerk and possibly a second draftsman.

3. If centralized, what procedures have been implemented to address conveyance of documents, time stamping and claim staking?

Claim forms are completed and delivered in person or mailed in. The office provides copies (samples) of correctly completed forms which along with brochures can be faxed out to anyone having difficulty completing the forms. When the application is received, it is stamped with the effective date and time.

The Ministry expects that one half of claims staked in 1995 will revert to the crown in 1996.

Map Staking

1. Have you considered map staking?

Map staking has been implemented in Labrador since August 1983. Since September 1995 map staking is in effect for the Island portion of the province also. There is a $10 staking fee, supported by a $50 security fee. The security deposit is refundable if the first year work is completed on schedule or if a Condition 2 - 12 month extension of time is granted. Initially there was a lot of concern by prospectors and contract staking companies, who felt they would lose income. This no longer seems to be an issue, with the exception of the staking companies.

If there is a map stake overlap, the overlap is decided in favour of the earliest received claim. Usually companies and/or prospectors call to determine where claims already exist before filing new claims.

If assessment work is not performed, a dollar amount can be posted to the Ministry for work which should have been done. Assessment work is $200 for the first year and increases by $50 per year up to year five years. A claim can by held for 20 yearsprovided assessment work is completed and technical work is submitted.

A prospector's licence is not required in Newfoundland. Each claim is 500 square metres. The province is preparing a cabinet submission to allow genuine prospectors to stake 30 claims in any calendar year without posting the security deposit.

Dispute resolution has not been required since 1992.

Field inspection activity normally takes place over a 1.5 month period in the summer. Inspection has been required in the past to check gaps between ground claims.

Resident geologist program

Mr. Jim Greene

1. How are your resident geologist's organized?

The function is operated out of the equivalent of the OGS in St. John's and provides geochemical, geophysics, mineral deposit, field and administrative support. There are no resident geologists in the field, although the province runs a summer office in Goose Bay most years. Geologists are located in the field primarily during the summer in a designated mapping area.

3. Do your geologists make property visits?

Yes, property visits are made on demand, or in association with their own field work in the summer. They may be made to coincide with an exploration company operating in the geologist's area. Residents have no regulatory responsibilities.

4. Does your organization maintain drill core libraries?

Yes. The province has 6 drill core libraries. Two individuals look after them, one located in St. John's and the other in Pasadena Bay. They do quite a lot of core collection and employ two summer students to handle the workload. Two libraries are warehouses with examining areas. There is also a laboratory. Six chemists do the lab assessments.

7. Are the following activities also provided in Newfoundland?

- Exploration and development consultation: The ministry has one dedicated staff position, a mineral exploration consultant, who meets with companies and prospectors. There is a concerted effort to expand the number of prospectors working in the province.
- Land use planning: This is done for mineral assessment purposes by the Mining Lands Division of the Department.

- Assessment files and other databases: The province has just completed a mineral development agreement (originally with ACOA which ended in 1994). The province expects to store all assessment files digitally and is currently converting all maps to digital form using the CARIS GIS software platform. 1:250,000 geochemical and some geology and topography will be available shortly on CD-ROM. The assessment files are currently available on microfiche.
- Geoscience publications: Available through the St. John's office.
- Education and training: There is a course which staff provide.
- Industry networking and brokering: Some networking is provided but it is not development oriented.

4. Is the Ministry using a province wide network? Internet?

The department has a home page now and plans to expand.

Geological Publications

1. What types of publications are produced?

All publications are produced through St. John's, and are kept on hand to respond to requests. On average, four reports are prepared annually, based on current research and extensive mapping.

One Window Permitting

1. Does one window permitting exist in Newfoundland?

No, the province is thinking about it, particularly for drilling permits. They do provide assistance on environmental assessment information.

2. What infrastructure does the agency provide for advanced exploration and mine development projects?

The Ministry has been very cautious regarding aboriginal claims. There are several filed in Labrador with regard to Voisey's Bay, which were removed, and reopened again.

Grants are provided to prospectors in amounts of $5,000 against a fund of $100,000. These are administered by the Mining Lands Division. Continuance of this fund is undecided.

A fund in the order of $500,000 has been established for junior companies primarily for advanced exploration, early drilling, diamond drilling and construction access. It is not likely to continue in 1997. The province is expecting cuts to geoscientific development in the order of 60% of its mapping functions in 1996. They plan to spend $300,000 for digital information services to continue with development of the GIS and assessment data systems.

Manitoba

Interview with Mr. Sheena Shetty

Mining Recorders Function

1. How is the mining recorder's function organized in Manitoba?

There are two key offices - Winnipeg and The Pas. There is a chief mining recorder over both offices and a recorder for quarry minerals. There are two regional satellite offices: Flin Flon and Thompson. The two latter offices simply accept documents, forward them and collect fees. All exploration permits, etc. are provided out of Winnipeg. The Pas provides for claim staking only.

Three million hectares have been mapped. Thompson and Flin Flon are long established mining camps for Inco and Hudson Bay Mining respectively.

The principles of sustainable development was incorporated in the Mining Act in 1992. There is one claims inspector for the entire province.

2. Is there automated support for the mining recorder function?

A computerized mining recording system operates in the four offices from a mainframe in Winnipeg which has since been converted to a PC base. All input is provided from Winnipeg and The Pas while the remaining two offices have inquiry operations only.

A new client server application (Integrated Manitoba land related information system) is being developed to link the claims records with land titles for surface and mining rights.

3. If centralized, what procedures have been implemented?

A prospectors licence is required.

Submit an application. Claim maps are up to date to the minute. Prospectors have 30 days to record a claim after staking; if the claim is staked by map staking, there is no delay.

The Pas for example will fax claim application to Winnipeg which sends it back immediately (clients are encouraged to get a map from their respective office or geographical location).

Staff process the application for compliance. If corrections are needed, they are telephoned or sent for by mail. If the process was generally OK, the certificate will be issued for the submission date. If not, the applicant still has priority while changes are pending.

A claim can be registered in anybody's name eliminating the need to transfer claims and the related fees. The claim is entered into the computer system as soon as it is received (even if pending). Most applications present no problems.

Map staking

1. Have you considered map staking in Manitoba?

Map staking already exists in the south where the land has already been surveyed. North of the 53rd parallel in the unsurveyed territories, ground staking is still in place. In Manitoba, individuals or companies can stake in provincial parks. Map staking is preferred in this situation as it eliminates the need for blazing. The ministry has placed map staking on hold at this time.

Where NTS digital files are available, map staking is extensive (90-95%). For the NTS 1:50,000, the province plans to split the map sheets into two sections, so that the claims maps can be faxed on 8.5 x 14 legal size paper. The advantage to map staking is that there are no inspections required, which typically cost $2-5,000. Some parts of the province lack the infrastructure to ground stake.

3. Has the procedure met your expectations?

Generally yes. There are two prospectors associations in the province - one in Flin Flon and one in the south. There are 80-100 prospectors.

Each claim in Manitoba can be a maximum of one square mile. Assessment credits are based on $12.50 per hectare claim. The assessment value is doubled after 10 years. Claim holders can allocate assessment credits across claims once in 12 months or pay cash in lieu. In five years, they may apply for the cash payment back. The assessment reports are held confidential until the claim lapses. Some companies are submitting in digital form. Often they keep two reports - one for the government and one for themselves.

Resident geologist program

There are 30 geologists in the equivalent of the OGS who work in head office. There are no geologists located in the field.

One window permitting

Manitoba has implemented a one window approach to mineral development. Apart from providing all of the information necessary to process applications, the one window approach sets up project teams and assigns a Business Development Officer to facilitate the permitting and review process.

Other information

Quarries and industrial minerals are regulated by the province. A levy of 10 cents per metric ton is applied for rehabilitation purposes. This is secured from the private sector, kept in a trust account. Producers must register each year. This fund is not general revenue, and now totals approximately $3,250,000 .

Mine closures are separately managed by the Mines Branch.

Nova Scotia

Interview with Mr. Rick Ratcliffe

This discussion was very brief and focused on the map staking activity in the province. Mr. Ratcliffe was very much aware of the opposition to map staking in Ontario, and felt that once implemented it could be managed.

British Columbia

Interview with Mr. Denis Lieutard

Mining Recorder Function

1. How is this function organized in British Columbia?

The mining recorder function is headquartered in Victoria. There are seven "gold commission offices" where there is expertise, recording capabilities etc. The volume of claims recording is 60,000 annually across all offices. The remaining intake centres for mining claims are handled by government agents who receive documentation, forward it, and sell tags, etc. There are 60 such locations. Each of these agents also provides services to other departments in the BC government.

There are the equivalent of 15 permanent staff in the mining recorders function across the seven locations. While the province has outstanding prospectors licences in the order of 10,000, only 6000 of these are considered to be active. Disputes are referred to head office.

2. Is there automated support for the mining recorder function?

All of the offices including the 60 government agent offices are online to the claims database. Only the seven "gold commission" offices can update the database with new claims. Two hour turnaround time is average for claims province wide to be entered into the system and made available in a remote office. The service is provided by Information Technology Service Division which provides all computing services to the province. The system is a mainframe application operating on a VAX and IBM computer.

The claim maps are currently scanned onto NTS map sheets and available by mail. A project is underway using Microstation to capture all claims maps using the provincial topographic maps (DTM/TRIM) in vector form.

3. If centralized, what procedure are in place?

Maps are currently scanned but are only available in the offices in hard copy. A counter map is available in the seven main offices based on a grid system. The 60 agents offices must call for a faxed or hard copy.

Map staking

1 Has your organization considered map staking?

In 1989, the province did an evaluation of map staking with regard to land alienation in parks. They implemented one post staking on amodified grid, and developed the regulations at that time, and implemented the one post staking, equivalent to map staking. There is a lot of pressure to go to map staking in the province. There are no immediate palns to advance map staking in BC. Map staking is considered to reduce costs, be more secure, and reduce disputes.

Resident geologist function

1. Do you have a similar system to Ontario?

Resident geologists are assigned to five offices.

Resident geologists are managed under a regional manager arrangement, where all on site personnel will report through one manager. Each office will have a district geologist, various mine inspectors, a mineral land planner and support staff. Total office complement is expected to be 5-6.

All field survey staff are assigned to Victoria, and work in the field during the summers.

7. Are the following activities provided by your resident geologists?

- Exploration and development consultation - yes
- Land use planning - yes, but by a Land Planner
- Assessment file and other databases: There is a one year confidentiality requirement in BC on assessment files. Each office has their own hard copy files and a microfilm version of the entire province. They have built an index system, called ARIS, which provides an index and abstract similar to Quebec.
- Drill core library - no more; this is now the responsibility of the industry.
- Geoscience applications: Access to reports is through Victoria. Only reference copies are kept in the local offices. The Crown publications corporation publishes and markets the reports.
- Education and training - yes
- Industry networking - yes.

Electronic data

1. What data and processes are automated in your jurisdiction?

There are a lot of standalone applications. They have tried to regionalize the geological files on a PC, and are looking to Mineral Data BC (see attached flyer from the Internet) to distribute data in the medium to longer term. Mineral Data BC will provide databases similar to ERLIS on a province wide database which can be downloaded to a PC for more detailed analysis. Mineral Data BC currently uses MapInfo as its desktop GIS. The system is operational.

The ARIS system stores each occurrence of mineral data as a point on the tenure map at a scale of 1:250,000. It is possible to click on the point and it will retrieve the abstract and any permits registered against the claim.

	The province also maintains a mineral potential derived map series which is prepared for land use planning and mining inspections for the past three years. While is useful, it will eventually be replaced by the new vector maps on the TRIM base.
4. What types of communications are implemented:	BC has a full network province wide. There is also experimental use of the Internet using a map web based browser for the CARIS GIS software platform. This new environment will employ ORACLE and ORACLE spatial data object under WINDOWS 95.

Geological Publications

1. What type of publications are produced?	All BC publications can be referenced over the Internet, read or copies requested.

One window permitting

1. Does your organization have one window permitting?	BC is working on implementing this concept. The current window is through the mines inspector, who accepts the application with related information and refers it to other agencies. There is a 30 day referral period.
2. Does your ministry play a lead role in mine development?	The government provides financial assistance in the form of prospectors grants. Grants for companies for exploration were suspended for the 96/97 fiscal year.
6. Does your organization provide technical assistance and legislative advice to the industry?	They do this through the permitting procedure described earlier. Environmental assessment and aboriginal claims investigations are done centrally by a special unit. They use field staff when necessary.
Other	BC provides health and safety regulations for the operation of pits and quarries. They are administered from a tenure perspective under the Land Titles Act for crown land.

APPENDICES

Questionnaire

This section of the chapter contains the complete questionnaire as it was faxed to the associations for distribution to their members. An original was also forwarded to the Ministry to be copied and distributed to their field offices.

Field Service Survey for the Mines and Minerals Division
Ontario Ministry of Northern Development and Mines

Purpose and audience of survey

This survey has been developed as a part of the Model Office Project to collect relevant data from a representative audience of the division's customers to:

- determine the value and quality of the current products, services and field office locations of the division from the perspective of different customer groups
- evaluate the quality of information and service provided by ERLIS
- establish priorities for future products, services, service delivery options and locations.

If you plan to attend one of the scheduled focus groups to discuss the issues raised in this survey, please complete the survey to help you prepare for the focus group. If you cannot attend a focus group, please fax or mail your completed survey to:

Norah Prior, Prior & Prior Associates Ltd
15 Donino Avenue, Toronto, ON, M4N 2W4
Fax: 416 481-9403 Phone 416-481-8141.

Identification

1. The specific responses and identity of each individual or organization will be kept confidential (the Ministry is, however, prepared to share summary results with those who participate in the survey). In order for us to follow up on your concerns (if required), please complete the following identification information:

Name: _____ City or town: _____

Phone number: _____ Fax number: _____

Organization you represent: _____

2. In what capacity do you or your organization *primarily* make use of the field services of the division (check all those that apply)?

☐ Consultant or other professional (eg, exploration/mining consultant, geotechnical engineer, lawyer, auditor, environmental consultant, land use planner)

☐ Investor or Promoter ☐ Prospector (staker, claimholder, lessee or patent-holder)

☐ Contractor ☐ Mine Operator ☐ Land Owner

☐ Academic Researcher ☐ Citizen

3. If you represent an organization, please indicate the type of organization you represent (check only one):

☐ Consulting company ☐ Jr mining company ☐ Major mining company

☐ Aboriginal First Nation ☐ Municipal government ☐ Provincial government

☐ Other government ☐ Academic institution ☐ Other (please specify)

4. If you or your organization is engaged in mining or mineral exploration, please indicate the mineral commodities which you deal with (check all that apply):

☐ Base metals ☐ Precious metals/minerals ☐ Industrial minerals

☐ Aggregates ☐ Oil and gas ☐ Other (please specify)

5. Please indicate the districts in Ontario where you or your organization are currently working (check all that apply):

☐ Red Lake ☐ Sioux Lookout ☐ Kenora

☐ Thunder Bay ☐ Beardmore-Geraldton ☐ Schreiber-Hemlo

☐ Sault Ste Marie ☐ Timmins ☐ Kirkland Lake

☐ Cobalt ☐ Sudbury ☐ Southern Ontario

☐ Other (please specify): _____

Resident Geologist Program

6. Do you or your organization make regular use of the Resident Geologist Program?

☐ yes ☐ no (if no, go on to question 10)

7. Rank the following products or services of the Resident Geologist Program in order of importance to your organization. "1" indicates the most important, "8" the least important.

☐ Exploration and development consultations, including property visits

☐ Land use planning consultation

☐ Assessment file and other databases (eg, MDI)

☐ Drill core library

☐ Geoscience publications library

☐ Sale of geoscience publications

☐ Prospector classes

☐ Public presentations and symposia

8. For each office you have used or anticipate using, use the chart on the next page to indicate :

- (with an "X") the frequency of use now, in the past three years and the anticipated frequency in the next three years (at least once per day, week, month, year)
- the distance you or other staff members of your organization typically have to travel to reach each office that you use.

Resident Geologist Offices

Office Location		X - Frequency (at least once per...)				Distance to travel
		Day	Week	Month	Year	
Red Lake	Past					
	Current					
	Future					
Sioux Lookout	Past					
	Current					
	Future					
Thunder Bay	Past					
	Current					
	Future					
Beardmore-Geraldton	Past					
	Current					
	Future					
Kenora	Past					
	Current					
	Future					
Schreiber-Hemlo	Past					
	Current					
	Future					
Sault Ste Marie	Past					
	Current					
	Future					
Timmins	Past					
	Current					
	Future					
Kirkland Lake	Past					
	Current					
	Future					
Cobalt	Past					
	Current					
	Future					
Sudbury	Past					
	Current					
	Future					
Tweed	Past					
	Current					
	Future					
Toronto (MMIC)	Past					
	Current					
	Future					

9. For the services of the Resident Geologist Program which you or your organization , use the following chart to indicate :

- use an "X" to indicate the frequency of use now, in the past three years, and the anticipated frequency in the next three years
- indicate your satisfaction with the quality of the product or service (VS- very satisfactory, S - satisfactory, A - adequate, P - poor, VP - very poor).

Resident Geologist Services

Product or Service		X - Frequency of use (at least once per...)				Quality rating and comments
		Day	Week	Month	Year	
Exploration and development consultations	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Land use planning consultation	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Assessment file and other databases (eg, MDI)	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Drill core library	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Geoscience publications library	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Sale of geoscience publications	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Prospector classes	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Public presentations	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					

Mining Recorder Program

10. Do you or your organization make regular use of the Mining Recorder Program?

☐ yes ☐ no (if no, go on to question 14)

11. For each office you have used or anticipate using, use the chart on the next page to indicate :

- the frequency of use now, in the past three years and the anticipated frequency in the next three years (at least once per day, week, month, year)
- the distance you or other staff members of your organization typically have to travel to reach each office that you use.

Mining Recorder Offices

Office Location		Frequency (at least once per...)				Distance to travel
		Day	Week	Month	Year	
Red Lake	Past					
	Current					
	Future					
Sioux Lookout	Past					
	Current					
	Future					
Thunder Bay	Past					
	Current					
	Future					
Kenora	Past					
	Current					
	Future					
Sault Ste Marie	Past					
	Current					
	Future					
Timmins	Past					
	Current					
	Future					
Kirkland Lake	Past					
	Current					
	Future					
Sudbury	Past					
	Current					
	Future					
Toronto (MMIC)	Past					
	Current					
	Future					

12. Rank the following products or services of the Mining Recorder Program in order of importance to your organization. "1" indicates the most important, "5" the least important.

- ☐ Mining claim recording
- ☐ Mining claim dispute resolution
- ☐ Mining lands and mining act consultations
- ☐ Access to CLAIMS database information
- ☐ Sale of claim tags, claim maps and geoscience publications
- ☐ Other (please specify):

13. For the services of the Mining Recorder Program which you or your organization , use the following chart to indicate :

- use an "X" to indicate the frequency of use now, in the past three years, and the anticipated frequency in the next three years
- indicate your satisfaction with the quality of the product or service (VS- very satisfactory, S - satisfactory, A - adequate, P - poor, VP - very poor).

Mining Recorder Services

Product or Service		X - Frequency of use (at least once per...)				Quality rating and comments
		Day	Week	Month	Year	
Mining claim recording	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Mining claim dispute resolution	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Mining land and Mining Act consultation	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Access to CLAIMS database information	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Sale of claim tags geoscience publications	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					

Mineral Development Program

14. Do you or your organization make regular use of the Mineral Development Program?

☐ yes ☐ no (if no, go on to question 18)

15. For each Mineral Development Office you have used or anticipate using, use the following chart to indicate :

- the frequency of use now, in the past three years and the anticipated frequency in the next three years (at least once per day, week, month, year)
- the distance you or other staff members of your organization typically have to travel to reach each office that you use.

Mineral Development Offices

Office Location		Frequency (at least once per...)				Distance to travel
		Day	Week	Month	Year	
Kenora	Current					
	Future					
Timmins	Past					
	Current					
	Future					
Sudbury	Past					
	Current					
	Future					

16. Rank the following products or services of the Mineral Development Program in order of importance to your organization. "1" indicates the most important, "2" the least important.

☐ One window permitting for mineral development

☐ Consultation on development opportunities

☐ Consultation on permitting.

17. For the services of the Mineral Development Program which you or your organization , use the following chart to indicate :

- use an "X" to indicate the frequency of use now, in the past three years, and the anticipated frequency in the next three years
- indicate your satisfaction with the quality of the product or service (VS- very satisfactory, S - satisfactory, A - adequate, P - poor, VP - very poor).

Mineral Development Services

Product or Service		X - Frequency of use (at least once per...)				Quality rating and comments
		Day	Week	Month	Year	
One window permitting for mineral development	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Consultation on development opportunities	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					
Consultation on permitting	Past					☐ VS ☐ S ☐ A ☐ P ☐ VP
	Current					
	Future					

ERLIS

18. Have you or someone in your organization had first hand experience using ERLIS?

☐ yes ☐ no (if no, go on to question 30)

19. What location did you use it at? _____

20. Did you receive any training?

☐ yes ☐ no

Comments:

21. How frequently have you used ERLIS in the past year:

☐ not at all ☐ once only

At least once per:

☐ day ☐ week ☐ month ☐ quarter

Ease of use

(Particular comments about problems or improvements would be appreciated)

22. Did you find it easy to access information using the geographic layer, ie the NTS and geology maps?

☐ Very easy ☐ Easy ☐ Difficult ☐ Very difficult ☐

Comments:

23. Do you find the AFRI indexes easy to use?

☐ Very easy ☐ Easy ☐ Difficult ☐ Very difficult ☐

Comments:

24. Do you find the MDI indexes easy to use?

☐ Very easy ☐ Easy ☐ Difficult ☐ Very difficult ☐

Comments:

25. Once you have located a specific assessment file, do you find it easy to read or browse the *pages* of the file (excluding the maps)?

☐ Very easy ☐ Easy ☐ Difficult ☐ Very difficult ☐

Comments:

26. Once you have located a specific assessment file, do you find it easy to read or browse the *maps* of the file?

☐ Very easy ☐ Easy ☐ Difficult ☐ Very difficult ☐

Comments:

Accuracy and completeness of information

(Specific information about which type of ERLIS information in which you have found problems would be appreciated).

27. Have you found instances where ERLIS information is inaccurate ?

☐ yes ☐ no

If yes, what information layer and which specific data was inaccurate?

28. Have you found instances where ERLIS information is incomplete ?

☐ yes ☐ no

If yes, what information layer and which specific data was inaccurate?

Performance and access

29. How would you rate the response time and overall performance of the ERLIS system?

☐ Very easy ☐ Easy ☐ Difficult ☐ Very difficult ☐

Comments:

30. How does using ERLIS compare with accessing information from paper records?

31. From your perspective, how might the Ministry improve access to ERLIS (eg, remote access by phone, Internet, etc)?

ERLIS Data

32. Rank the ERLIS information layers in order of importance to you and your organization:

☐ AFRI ☐ MDI ☐ Maps of geology of Ontario
☐ NTS 1:250,000 maps ☐ Digital Chart of World ☐ Other: please specify.

33. What other layers of data would you like to see added to ERLIS? Rank them in order of importance.

34. How important is it for you or your organization to have ERLIS data for the entire province available from any Resident Geologist Office.

☐ Very important ☐ Important ☐ Not important

Comment

35. Are you aware that some ERLIS datasets can be purchased on CD and floppy disks (eg, the bedrock geology of Ontario?

☐ yes ☐ no (if no, go on to question 38)

36. Have you purchased any datasets? If yes, what did you purchase? How useful were the datasets?

37. What ERLIS datasets would be useful to your organization on floppy or CD?

Other jurisdictions

38. Do you or your organization work outside Ontario?

☐ yes ☐ no (if no, go on to question 42)

39. Please indicate the other jurisdictions in which you or your organization are currently working (check all that apply):

☐ Newfoundland/Labrador	☐ Maritime provinces	☐ Quebec
☐ Manitoba	☐ Saskatchewan	☐ Alberta
☐ British Columbia	☐ NWT/Yukon	

☐ Other countries (please specify):

40. Describe any innovative products, field services or alternative service delivery approaches from other jurisdictions which you feel would be worth investigating for use in Ontario. For each innovation, please indicate the jurisdiction.

Alternative Service Delivery

41. If a service were not available in an office you currently use, what are the implications for you or your organization?

42. Indicate what could be done to improve the quality of any products or services which are important to you or your organization?

43. For specific products or services which are important to you or your organization, suggest alternative means of delivering the product or service (eg. remote access by telephone, faxback, mail or modem, privatization, etc.).

44. What existing or new services would you or your organization be willing to help fund on a fee for service basis?

Tabulation of questionnaire (questions 1-39)

The following pages represent the tabulation of the 338 responses. No editing has occurred. We apologize for any typographical errors which may have occurred during the data entry activity.

MNDM MODEL OFFICE PROJECT

Tabulation of Client Survey Responses

March 1996

RESPONDENTS TO SURVEY

The 338 surveys received by the cutoff of February 29th were included in this tabulation

Q2 **In what capacity do you or your organization primarily make use of the field services of the division (check all those that apply)?**

Prospector	231	68%
Consultant or other professional	183	54%
Land Owner	65	19%
Investor or Promoter	60	18%
Contractor	52	15%
Mine Operator	43	13%
Citizen	42	12%
Academic Researcher	34	10%
Total questionaires	338	100%

Q3	**If you represent an organization, please indicate the type of organization you represent (check only one):**		
Checkbox	Consulting Company	61	26%
	Jr Mining Company	55	24%
	Major Mining Company	54	23%
	Aboriginal First Nation	4	2%
	Academic Institution	4	2%
	Provincial Government	3	1%
	Municiapl government	1	0%
	Other government	0	0%
Other			
	prospector	13	10%
	Prospecting company	1	
	prospecting syndicate	1	
	prospectors partnership	1	
	prospectors association	7	
	contractor	2	12%
	exploration contractor	1	
	economic development corp	2	
	self	2	
	Aggregate producer	1	
	claim holder	2	
	Community economic development corp	1	
	Crisis Centre	1	
	export trade assoc	1	
	Grass roots exploration: 23 member partnership	1	
	gypsum products	1	
	Heritage society	1	
	Investors	1	
	marble and granite products	1	
	mineral club	1	
	mineral exploration	1	
	Mining and tourism committe of the Bruce Mines	1	
	OLS	1	
	Other	1	
	Own firm -minerals possible aggregates prospecting	1	
	Peat moss harvesting & production	1	
	Pesonal business	1	
	private mining co	1	
	quarry operator and prospector	1	
	unique rock collecting - tourism	1	
		234	100%

Q4 **If you or your organization is engaged in mining or mineral exploration, please indicate the mineral commodities which you deal with (check all that apply):**

Checkbox	Precious metals/minerals	269	38%
	Base Metals	233	33%
	Industrial minerals	116	16%
	Aggregates	45	6%
	Oil and Gas	8	1%
Other			5%
	Building stone	8	
	Diamonds	7	
	O.L.S.	2	
	Dimension stone	2	
	gemstones	1	
	amythyst	1	
	Au	1	
	Building brick - clay/shale	1	
	gems	1	
	Uranium	1	
	gold	1	
	granite	1	
	gypsum	1	
	just interested in educating children	1	
	manufacturing	1	
	marble and granite	1	
	mining syndicate	1	
	peat moss	1	
	Rare earth minerals	1	
	refractory metal	1	
	structural and decorative stone	1	
	tailings	1	
	Dimensional stone	1	
		709	100%

Q5 **Please indicate the districts in Ontario where you or your organization are currently working (check all that apply):**

Checkbox	Timmins	108	12%
	Kirkland Lake	99	11%
	Thunder Bay	98	11%
	Sault Ste Marie	72	8%
	Sioux Lookout	70	8%
	Kenora	69	8%
	Red Lake	67	8%
	Sudbury	66	8%
	Beardmore-Geraldton	61	7%
	Cobalt	48	5%
	Schreiber-Hemlo	47	5%
	Southern Ontario	46	5%
Other			3%
	Wawa	4	
	Matachewan	2	
	Northern Ontario	1	
	Central ON	1	
	Detour Lake	1	
	Eastern ON	1	
	Fort Francis, Wawa	1	
	Chapeau, Wawa	1	
	Labrador	1	
	May be active in any of these district	1	
	at present - none	1	
	New Liskeard West	1	
	Wawa area	1	
	Rainey River, Fort Francis	1	
	Rainy River	1	
	S.E. ON	1	
	Throughout Ontario	1	
	Tweed London	1	
	most of N.ON	1	
		874	100%

RESIDENT GEOLOGIST PROGRAM

Q6 **Do you or your organization make regular use of the Resident Geologist Program?**

Yes	No (or did not respond)
302	36

Q7 **Rank the following products or services of the Resident Geologist Program in order of importance to your organization. '1' indicates the most important, '8' the least important.**

Service	1	2	3	4	5	6	7	8
		R	A	N	K			
Assessment file and other databases	178	68	23	9	5	2	4	5
Exploration and development consultati	136	60	24	17	17	11	11	10
Geoscience publications library	45	43	50	32	44	27	20	6
Drill core library	35	27	43	45	39	24	25	19
Sale of geoscience publications	29	34	31	52	38	36	17	20
Prospector classes	27	10	21	27	15	26	35	95
Public presentations and symposia	27	15	32	36	36	31	42	27
Land use planning consultation	17	17	15	15	24	36	43	73

Service	Weighted Rank
Assessment file and other databases	1.0
Exploration and development consultati	0.9
Geoscience publications library	0.7
Drill core library	0.6
Sale of geoscience publications	0.6
Public presentations and symposia	0.5
Prospector classes	0.4
Land use planning consultation	0.4

Q8 **For each Resident Geologist's Office you have used or anticipate using, use the chart on the next page to indicate (with an 'X') the frequency of use now, in the past three years and the anticipated frequency in the next three years (at least once per day, week, month, year).**

Table 8.1: Frequency of use (based upon Past usage)

RGO	Day	Week	Month	Quarter	Annual
Beardmore-Geraldton	1	20	14	2	29
Cobalt		8	16	2	39
Kenora		8	29	5	43
Kirkland Lake	8	11	42	3	48
London		2	1	1	8
Red Lake	2	8	18		58
Sault Ste Marie		11	26	6	43
Schreiber-Hemlo	2	11	18		32
Sioux Lookout		4	22	5	54
Sudbury	1	4	30	7	50
Thunder Bay	2	23	47	4	49
Timmins	9	16	43	6	39
Toronto	1	4	27	8	43
Tweed	1	2	12	1	22

Table 8.2: Number of visits per year (approximated from Frequency of Use)

	Vists per year			No. of
Location	Past	Current	Future	Users
Thunder Bay	16	14	15	134
Timmins	22	24	23	124
Kirkland Lake	19	18	20	121
Sudbury	8	9	10	102
Red Lake	10	9	9	97
Sioux Lookout	6	6	6	94
Sault Ste Marie	10	9	11	93
Kenora	9	7	9	89
Toronto	9	7	9	87
Cobalt	9	10	12	73
Beardmore-Geraldton	19	18	20	71
Schreiber-Hemlo	16	13	17	67
Tweed	10	9	10	42
London	10	14	11	12
Overall	13	12	14	1206

Q9 **For the services of the Resident Geologist Program which you or your organization , use the following chart to indicate with an 'X' the frequency of use now, in the past three years, and the anticipated frequency in the next three years.**

Table 9.1: Frequency of use (based upon Past usage)

Service	Day	Week	Month	Quarter
Assessment files	17	74	103	10
Drill core library	3	12	51	3
Geoscience publications library	7	34	80	12
Geoscience publications sale	2	24	86	11
Land use consultations	0	12	36	1
Prospector Classes	1	5	14	0
Public presentations	1	6	21	6
Resident consultations	3	56	96	10

Table 9.2: Number of usages per year (approximated from Frequency of Use)

Service	Past	Current	Future	No. of Users
Assessment files	28	27	28	267
Resident consultations	19	18	18	242
Geoscience publications sale	12	11	11	222
Geoscience publications library	17	14	15	222
Drill core library	9	9	10	188
Public presentations	5	5	5	185
Land use consultations	9	9	10	121
Prospector Classes	6	7	7	111
Overall	15	14	14	1558

Table 9.3: Satisfaction Level expressed as a percentage

Service	Very Satisfactory	Satisfactory	Adequate	Poor	Very Poor
Resident consultations	65%	23%	9%	2%	1
Prospector Classes	61%	25%	11%	2%	1
Assessment files	58%	32%	9%	1%	1
Public presentations	55%	31%	10%	4%	1
Geoscience publications sale	50%	35%	11%	3%	1
Geoscience publications library	47%	37%	14%	1%	1
Land use consultations	43%	27%	25%	4%	1
Drill core library	41%	36%	14%	4%	9
Average	**53%**	**31%**	**12%**	**3%**	**1%**

MINING RECORDER PROGRAM

Q10 **Do you or your organization make regular use of the Mining Recorder Program?**

Yes	No (or did not respond)
259	79

Q12 **Rank the following products or services of the Mining Recorder Program in order of importance to your organization. '1' indicates the most important, '6' the least important.**

Service	RANK 1	2	3	4	5	6
Mining claim recording	177	48	28	17	2	
Access to CLAIMS database information	98	54	55	40	17	
Mining lands and mining act consultations	49	48	57	69	29	
Sale of claim tags, maps and geoscience public	74	75	64	37	16	
Mining claim dispute resolution	18	10	18	35	138	7
Other (please specify)	14	3	2	1	3	7

Service	Weighted Rank
Mining claim recording	1.0
Access to CLAIMS database information	0.8
Sale of claim tags, maps and geoscience public	0.8
Mining lands and mining act consultations	0.7
Mining claim dispute resolution	0.4
Other	0.1

submission of assessment work
surveying
consultations on how to access our claims
meet fellow prospectors and geologists
meet fellow industry members
to help people deal with the dictatorship of MNR
frontline field services are very important
advice from Recorder
titles, land registry, c\Canada info
look after some samples
searches

Q11 **For each Mining Recorders office you have used or anticipate using, use the chart on the next page to indicate (with an 'X') the frequency of use now, in the past three years and the anticipated frequency in the next three years (at least once per day, week, month, year).**

The following table is based upon the Past usage responses. There was no significant difference between Past, Current, and Future usage. See table below

Table 11.1: Frequency of use (based upon Past usage)

Office	Day	Week	Month	Quarter	Annual
Kenora	1	2	21	3	43
Kirkland Lake	6	12	40	5	35
Red Lake	3	2	14	3	44
Sault Ste Marie		8	20	4	31
Sioux Lookout		4	19	5	47
Sudbury	1	5	23	1	37
Thunder Bay	2	15	47	4	51
Timmins	6	15	35	5	34
Toronto		3	21	6	31

Table 11.2: Number of visits per year (approximated from Frequency of Us

	Vists per year			No. of
Office	Past	Current	Future	Users
Timmins	20	22	20	104
Kirkland Lake	19	20	20	106
Thunder Bay	14	12	13	124
Red Lake	11	13	12	69
Sudbury	9	8	10	76
Sault Ste Marie	10	9	10	69
Sioux Lookout	6	6	6	81
Kenora	8	5	8	71
Toronto	7	7	7	66
Overall	12	12	13	766

Q13 **For the services of the Mining Recorder Program which you or your organization , use the following chart to indicate with an 'X' the frequency of use now, in the past three years, and the anticipated frequency in the next three years.**

Table 13.1: Frequency of use (based upon Past usage)

Service	Day	Week	Month	Quarter	Year
Access to CLAIMS database	13	33	107	10	69
Mining claim dispute resolution	1	1	8	5	101
Mining claim recording	6	23	101	8	105
Mining lands and mining act consultatio	1	14	69	12	113
Sale of tags and publications	3	22	103	11	102

Table 13.2: Number of usages per year (approximated from Frequency of Use)

Service	Past	Current	Future	No. of Users
Mining claim recording	13	13	13	253
Sale of tags and publications	12	12	12	245
Access to CLAIMS database	21	20	20	238
Mining lands and mining act consultatio	8	8	8	214
Mining claim dispute resolution	3	5	6	118

Table 13.3: Satisfaction Level expressed as a percentage

Service	Very Satisfactory	Satisfactory	Adequate	Poor	Very Poor
Access to CLAIMS database	59%	26%	11%	3%	1%
Mining claim dispute resolution	40%	31%	12%	10%	7%
Mining claim recording	69%	27%	3%	0%	2%
Mining lands and mining act consultatio	59%	34%	4%	2%	1%
Sale of tags and publications	67%	28%	5%	0%	0%
Average	61%	29%	6%	2%	2%

MINERAL DEVELOPMENT PROGRAM

Q14 **Do you or your organization make regular use of the Mineral Development Program?**

Yes	No (or did not respond)
77	261

Q16 **Rank the following products or services of the Mineral Development Program in order of importance to your organization. '1' indicates the most important, '3' the least important.**

Service	R A N K 1	2	3
One window permitting for mineral development	39	13	11
Consultation on permitting	31	23	11
Consultation on development opportunities	25	21	20

Service	Weighted Rank
One window permitting for mineral development	1.0
Consultation on permitting	1.0
Consultation on development opportunities	0.9

Q15 **For each Mineral Development office you have used or anticipate using, use the chart on the next page to indicate (with an 'X') the frequency of use now, in the past three years and the anticipated frequency in the next three years (at least once per day, week, month, year).**

Table 15.1: Frequency of use (based upon Past usage)

Office	Day	Week	Month	Quarter	Annual
Kenora			12	3	16
Sudbury	1	1	10	3	20
Timmins	1	1	5	2	17

Table 15.2: Number of visits per year (approximated from Frequency of Use)

	Vists per year			No. of
Location	Past	Current	Future	Users
Timmins	9	13	11	31
Sudbury	9	7	8	39
Kenora	5	6	6	36
Overall	8	9	8	106

Q17 **For the services of the Mineral Development Program which you or your organization , use the following chart to indicate with an 'X' the frequency of use now, in the past three years, and the anticipated frequency in the next three years.**

Table 17.1: Frequency of use (based upon Past usage)

Service	Day	Week	Month	Quarter	Year
Development consultation		3	10	4	32
One window permitting		4	9	2	35
Permit consultation		2	15	4	30

Table 17.2: Number of usages per year (approximated from Frequency of Use)

Service	Past	Current	Future	No. of Users
Permit consultation	6	6	6	54
One window permitting	7	8	6	52
Development consultation	6	6	5	51

Table 17.3: Satisfaction Level expressed as a percentage

Service	Very Satisfactory	Satisfactory	Adequate	Poor	Very Poor
Development consultation	43%	34%	15%	6%	2%
One window permitting	40%	32%	14%	10%	4%
Permit consultation	37%	45%	8%	6%	4%
Average	40%	37%	12%	8%	3%

ERLIS

Comments from ERLIS questions are included at the end of this section.

Q18 Have you or someone in your organization had first hand experience using ERLIS?

Yes	No (or did not respond)
111	227

Q19 What location did you use ERLIS at?

Toronto	30
Timmins	27
Sudbury	21
Thunder Bay	16
Kenora	3
Kirkland Lake	1
London	1
Red lake	1
did not specify	11

Q20 Did you receive any ERLIS training? Comments?

Yes	No (or did not respond)
78	33

Comments

Training very well carried out
The MNDM staff was very helpful and excellent
Program crashed during training session
It requires time and commitment to train frustrating
Good job
Recieved while staff was still learning as well
Helpful and informative and given with enthusiasm
Official ERLIS operator/mage was not avail trainin

Q21 How frequently have you used ERLIS in the past year?

	Never	One time only	Month	Quarter	Weekly
Frequency of use	46	34	19	29	7

Q 22-26&29 Ease of use of the ERLIS system

22 **Did you find it easy to access information using the geographic layer, ie the NTS and geology maps?**

23 **Do you find the AFRI indexes easy to use?**

24 **Do you find the MDI indexes easy to use?**

25 **Once you have located a specific assessment file, do you find it easy to read or browse the pages of the file?**

26 **Once you have located a specific assessment file, do you find it easy to read or browse the maps of the file?**

29 **How would you rate the response time and overall performance of the ERLIS system? Comments?**

	Question	Very easy	Easy	Difficult	Very difficult
22	Use of Geographic layer	7	44	21	22
23	Use of AFRI index	5	44	25	6
24	Use of MDI index	4	51	20	4
25	Reading AFRI pages	9	44	17	12
26	Reading AFRI maps	8	33	25	17
	Ease of use		**60%**		**40%**
29	Systems performance	5	28	32	21
	Performance		**38%**		**62%**

Q27 **Have you found instances where ERLIS information is inaccurate ?If yes, what information layer and which specific data was inaccurate?**

Yes	No
39	46

Comments

- Not complete - or says no work done
- Very many instances - most relate to spatial data
- Misplaced scanned pages associated with wrong file
- location NTS etc.
- Geology incomplete
- Index layer - file in wrong area

Q28 **Have you found instances where ERLIS information is incomplete ?If yes, what information layer and which specific data was incomplete?**

Yes	No
54	30

Comments

- Several cases where AFRI file pre 1990 not included
- many data bo?ing are lacking
- AFRI files from 1993 or earlier are not available
- Not complete when used - still certain files missing
- Map is not always fully scanned
- assessment file info incomplete or missing
- Data that has not been transferred to Toronto from RGO
- AFRI MDI Geography (NTS)
- geology
- Image layer no image for files in index layer

Q 32 **Rank the ERLIS information layers in order of importance to you and your organization.**

			R A N K			
AFRI Layer	**1**	**2**	**3**	**4**	**5**	**6**
AFRI	55	10	8	3	2	
Maps of geology of Ontari	31	19	29	10	1	
MDI	20	35	17	6		
NTS 1:250,000	8	17	9	31	1	
Digital Chart of the World	2		2	3	39	1
Other (please specify)	7	4		2	1	
OBM maps						
mineral occurances						
Geophysical info						
drill hole datrabase, airborne geophysical data						
Drill core						
current claim maps or claim map base						
Airborne Geophysics						

AFRI Layer	**Weighted Rank**
AFRI	1.0
Maps of geology of Ontario	1.0
MDI	0.9
NTS 1:250,000	0.6
Digital Chart of the World	0.2
Other (please specify)	0.3

Q 34 **How important is it for you or your organization to have ERLIS data for the entire province available from any Resident Geologist Office? Comment?**

Very important	Important	Not Important
55	30	50

Q35 **Are you aware that some ERLIS datasets can be purchased on CD and floppy disks (eg, the bedrock geology of Ontario?**

Yes	No
92	66

Q 36 **Have you purchased any datasets? If yes, what did you purchase? How useful were the datasets?**

61 responses indicating that they have not purchased any datasets, some citing cost as the reason

Other responses:

- bedrock geology (good for general compliation maps)
- bedrock geology Tectonics Townships Very useful as a database for other GIS applications
- bedrock geology of ON - have downloaded into Map Info to use as a base
- bedrock geology of ON - have not used yet
- Clients have purchased aeromagnetic dataset . They found it useful but the included software is out of date and the PRICE IS TOO HIGH
- Data set 6,7,13,17 and OFR reports 5586,5588,5587,5909
- digital chart of the world - useful
- drill hole database proved to be grossly incomplete and innacurate Petrock - lithogeochemoical database
- drill hole database, MAG data
- Drill hole dattabase - very useful
- Geology of Ontario and historical MDI. In general too expensive to purchase
- MDI Database
- substance
- MDI, Bedrock Geology of ON - very useful, tectonic map of ON - essentiall, Petroch, DHDB
- Misc release - Data 16, Kimberlake Heavy Mineral Data Release - very useful in this form
- Why purchase this stuff when I can set the paper which is more useful at a fraction of the cost

Q 37 What ERLIS datasets would be useful to your organization on floppy or CD?

- aero geophyisics, diamond drill hole locations and log
- assesment files and claim maps
- bedrock
- blank claim maps
- claims databases
- complete GSC publications, complete bibliography for ON
- diamond drill hole
- environment maps topo with zoom in features
- Geochemical
- geographic surveys funded by COMDA
- Geology @ 1:250 000
- Geophysical surveys
- MDI
- mineral occurance maps
- none
- none would rather have quicker processing of a hard copy
- not worth purchasing if not complete
- NTS
- Petrock
- specific geology maps - greenstone belt maps
- Titles and brief description of assessment work- (see PQ)
- topo maps of ON and claim maps
- topographic maps and geology only
- township areas

General ERLIS Comments

- Steep learning curve (** frequent comment)
- Paper is preferable and easier **
- Requires you to be computer literate **
- Frequent use and familiarity are important **
- Geology too general to be useful
- Offer training for ERLIS in prospectors classes
- Easy to use if computer literate however not an easy tool for manipulation and collating multilayers of info
- Not user friendly **
- Not intuitive: its ok if you know what you are doing and what to ask for
- Potential is great
- Very slow moving - 2 hrs for 5 mins work on old system **
- System down often
- Does not supply me with the info I want
- Very usefull saves on travel
- The info is not currrent and is not comprehensive.
- The system is logical and reasonable
- It is a collosal waste of time and money. If companies wish to computerize data they should do so at their own expense and time
- Waste of time

Q22 Use of Geographic Layer

- Some geographic info has not been entered thus trying to locate a property using geographic info is next to impossible
- NTS base maps are incomplete - lake polygons are broken. Base maps should be improved. Remote sites are very slow
- Through some system fault a lot of the lakes are not included making property location difficult
- Well setup but linkage between geographic layer and images difficult to manage
- some of the drainage patterns are poorly and carelessly digitized and innacurate, may as well leave out

Q23 Use of AFRI Indexes

- Well setup
- Data specific more towards Toronto files
- Reading the file nos often difficult when viewing
- Hard copy is still more accessible and easier and manipulate as an exploration tool

- Cumbersome - info often unavailable
- It is always confusing when a file is listed but hàs no paper or maps found in it
- Incompete, mistakes
- It wont allow you to select multiple points (eg worktype and year) to generate a map
- Easier with more use
- What a bother
- Too general and lack info regarding NTS location. Thus spend much time going from index to location window to reading window
- ERLIS sometimes crashes during searching windowfrom graphic to database
- when there are numerous files in an area it can be hard to distinguish them on the screen
- Could be easier with practice but slower than paper files - however you could use it for far away files - retain paper files

Q24 Use of MDI Indexes

- Lack of detailed information
- incomplete!
- too many things to remember to access files and very difficult to print
- MDI locations are often incorrect
- Biggest problem here is historical naming of occurances
- files not complete and inaccuracies common
- easier with more use
- data errors and leck of detail detract from usefulness
- dont use - no purpose except regional info and stats
- The MDI maps are useful but should include MDIFs
- MDI was flawed, it gave 2 different locations for AU occurrence. Which is correct - keep paper

Q25 Browsing image pages

- Need more paractice and familiarity
- Absolutely necessary to keep current level of data
- It takes time for the file to come up but is easy
- Its easy but time consumming
- Very easy as long as the file is not too large
- Dont get rid of the paper files
- Scrolling through the document tends to be difficu
- cheaper to photocopy the paper file than current ERLIS repro costs to user some still very poor quality

- difficult on ERLIS - easy on paper
- slow - maps often missing,print too small for reading need zoom but slow and cumbersome
- very easy except for the large quantity of material which is missing
- more expensive than photocopy to acquire your own copy unfair advantage to those with money - keep paper files
- files not complete
- file not always present ie was not proofed properly aome files just assessment record
- cluttered
- The quality of these images varies. Often it iseasier to read the printouts
- qualitry of images varies - often it is easier to read paper
- MR office make it possible
- not everything was loaded

Q26 Browsing image maps

- Maps poorly scanned in and procedure for zooming
- The paper copies of maps and files should be left
- Absolutely necessary that clients have EASY access
- But difficult to judge print size required
- Keep the paper maps
- Constantly requires zooming Also older maps often hard to read
- I find maps are better viewed from a paper copy
- much rather view entire hard copy than partial ERLIS screen. Depends on the quality of scanned image, still necessitates hard copy availability
- difficult on ERLIS - must print first
- large maps difficult to scan for location
- very slow to load
- no because they often are missing which defeats the purpose of ERLIS
- moving around on the map, not as good as spreading out the hard copy. No ability to layer files - must retain paper files
- slow
- too many errors
- map reproduction not well done and to print/plot takes to long
- hard copies of assessment files MUST be kept and made avail to the public
- the quality of maps is oftn not sufficient. Also printin of maps takes too much time (1hr)
- print out of maps takes too long
- appears somewhat difficult

- most maps must be printed before even an adequate evaluation is made.IP Psuedo sections are useless due to entry/scanning problems
- difficult to absorb infor on a large maps. It is usually necessary to plot a copy - explensive and time consuming
- sometimes old maps are hard to read
- not everything was loaded

29 ERLIS System Performance

- 60% of time problems
- response time varies
- slow processing speed
- very slow, too much data, should be simplified
- too costly, slow, skeptical of final plot accuracy
- the system should be faster
- so slow we fly to Timmins and Thunder Bay from Toronto to use hard copy data
- The system crashes often and is incomplete to a large extent
- slow printout, also TOO EXPENSIVE, CANT TRUST DATA
- slow
- very slow and bumpy to browse layers
- actually both easy and difficult
- good in general. but a pain
- takes 2-5 times longer to do any given job
- better for some files than others
- when it works - however on several occasions the system had problems, so I had to revert to paper hardcopies
- it is so slow you can get 3 times as much work done in the same amount of time using paper

Q30 How does using ERLIS compare with accessing information from paper records?

There were 120 responses to this question, including 38 from respondents that had indicated that they had never used ERLIS. Virtually all of these 38 indicated that paper records are essential and cannot be eliminated.

Of those that had used ERLIS at least once, 55% indicated that they prefer paper records. 20% indicated that they prefer ERLIS outright, and another 25% prefer ERLIS for spepcific tasks but would not want to see the paper records disappear.

The main reasons cited for for the preference of paper records are:

- Personal productivity is very poor - using ERLIS is much slower than using paper records (cited as 2 to 5 times slower).
- ERLIS data is incomplete, and has missing / inaccurate information
- ERLIS is hard to learn and use

For those that prefer ERLIS on a qualified or unqualified basis, the reasons cited were:

- Searching (using indexes) is better (faster) than with paper records
- Making hard copies is easier
- Access to province-wide data is very convenient

Q31 From your perspective, how might the Ministry improve access to ERLIS (eg, remote access by phone, Internet, etc)?

There were 110 responses to this questions. Approximately 50% suggested some form of remote access, most citing the Internet as the preferred vehicle. Other comments included:

- Fine tuning of the existing system such as
  - some of the printing functions to make printing from Image window more efficient
  - enhance locational data
  - make copies cheaper
- Better access: 24 hr access, Saturdays
- Fix the data problems first before widening the distribution
- Make it more user friendly / idiot proof (more Windows like)
- Add more data layers first
- Hook it up to the Claims system
- Abandon ERLIS (10 responses)
- Let large companies who like ERLIS develop it with tax deducted funds without forcing it or its costs on others

OTHER JURISDICTIONS

Q 38 Do you or your organization work outside Ontario?

Yes	No
157	135

Q 39 Please indicate the other jurisdictions in which you or your organization are currently working (check all that apply).

Quebec	100
Other countries (see below)	71
British Columbia	55
Manitoba	54
Newfoundland / Labrador	52
NWT / Yukon	47
Maritime provinces	38
Saskatchewan	30
Alberta	13

Other countries mentioned in response:

Africa
Argentina
Australia
Beirut
Bolivia
Botswana
Brazil
Chile
China
Cuba
Eritrea
Europe
Finland
Ghana
Indonesia
Ireland
Jamacia
Kryghstan
Latvia
Malaysia
Mali
Mexico
Norway
Oman
Panama
Papau New Guinea
Peru
Philippines
Portugal
Russia
Saudi Arabia
Scotland
Slovakia
South Africa
South America
Sri Lanka
Taiwan
Tanzania
Tunisia
Turkey
Uganda
Ukraine
USA
Venezuela
Vietnam
West Africa
world wide
Zimbabwe

ALTERNATIVE SERVICE DELIVERY

Interview guide

The following pages contain the interview questions asked of representatives from the "benchmark" jurisdictions in other Canadian provinces.

Interview Guide for other Jurisdictions

There are five (5) areas of interest:

1. the mining recorder's function
2. within the mining recorder's function - the subject of map staking
3. the role of the resident geologists function and how it is implemented
4. the role of electronic databases & distribution of geological publications
5. one window permit facilitation

We estimate that the interview will take between 45 minutes and one hour.

The following questions have been prepared as a guide to the interview. If you have any prepared material which you are willing to share with us, which will facilitate or support the interview process, we would be pleased to receive it. For individual interviews, only selected sections of this document may apply.

Mining Recorders Function

1. How is your mining recorders function organized? Is it centralized or decentralized? What factors influenced the direction? What geographic coverage is addressed by each office? What volume of work? What is the ratio of staff to clients? How well is the current arrangement received by clients? What independence do the remote offices have with regard to decision making?

2. Is there automated support for this function? What technology platform does it run on? Are the offices linked?

3. If centralized, what procedures have been implemented to address conveyance of documents, time stamping, and claim staking?

Map Staking

1. Have you considered map staking versus the traditional filed staking process? What do you consider the advantages and disadvantages? Do you plan to implement map staking in the future?
   or
   (for those provinces which have implemented map staking)

2. We understand that your jurisdiction has implemented map staking? What were the factors which contributed to your pursuing this approach? What have been the advantages? disadvantages?

3. Has the procedure met your expectations? Would you proceed differently if you had the opportunity to do it again? How would your implementation change?

Resident Geologists Function

The province of Ontario currently has three models to support the resident geologist's function in the field. There are currently 13 field offices.

- resident geologists supported by staff geologists reside in 11 of offices; this is the norm; they support walk in, fax and mail, and telephone inquiries;
- resident geologists for the three areas are located in one regional office in Thunder Bay; this is known as the regional office concept; resident and staff geologists from these offices travel to their jurisdictions for one day weekly throughout the year, but dominantly during the summer field season months.

1. Do you have a similar system of resident or resource geologists? If so, how are your resident geologists organized? Where are they located? What is the level of activity per office? What is the client level of satisfaction?

2. What does your jurisdiction feel are the advantages/ disadvantages of your current implementation? If you had the option, what would you change?

3. Do your resident and staff geologists make property visits?

4. Does your organization maintain drill core libraries? How are they supported? Are they self serve or government staffed?

5. What is the interaction between field staff and survey mapping staff? Do the field staff do the mapping?

6. Are field staff involved in land use planning issues? If so, to what extent?

7. The following activities are provided by the Ontario resident geologist offices. What activities does your jurisdiction support? If they are not supported, who does provide the service?

    - Exploration & development consultation
    - Land use planning
    - Assessment file and other databases
    - Drill core library
    - Geoscience publications library & distribution
    - Education & training
    - Industry networking & brokering

Electronic Information

1. What data and processes are automated in your jurisdiction? Are they well received?

2. Have you evaluated expansion of your current automated data? Is so, what have you decided?

3. Are there deterrents to providing more mineral deposit and other related information in automated form?

4. What types of networking/ communications have you investigated? province wide data network? Internet? others?

Geological Publications

1. What type of publications are produced (open file reports/ preliminary maps/ etc.)? What volume of geological publications are prepared annually?

2. How are they distributed? At what cost to the recipient?

One Window Permit / Mineral Development Support

1. Does your organization have a "one window permitting" function for the mining industry? Which permits does it support? What services does it provide? For what other agencies?

2. What infrastructure/ support does your agency provide for advanced exploration and mine development projects?

3. Does your ministry play a lead role in mine development?

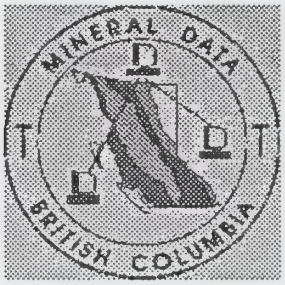
4. Does your organization have a group responsible for communication between the mining industry, government and the public? Who is responsible for public notice and hearings?

5. Is there an area of your organization which deals with non-metallic minerals? What services does it offer?

6. Does your organization have a section to provide technical and legislative advice to the industry?

   In your organization, do you have a group who administers or acts as technical gate keepers to Mining Industry Support programs?

7. If the answers to any of the above is Yes, please indicate whether these activities are delivered through field offices, head office or a combination?



Mineral Data BC: An Integrated Approach for Access to Spatially Referenced Mineral Resource Data

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Introduction

The Mineral Resources Division of the British Columbia Ministry of Energy Mines and Petroleum Resources has a need to integrate various types of data, to meet the demands integrated resource management planning. Often, information about mineral tenures, applications for work on mineral claims (notices of work), locations of tenures, resource potential, mineral reserves, and historical production are required for land-use planning and resource management decisions. In response to these pressures, a desktop mapping and data query system called, MDBC has been developed.

Mineral Data BC is an integrated, networked desktop mapping and data retrieval system designed to provide information required by land-use planners, district inspectors, and other users requiring this information. It's primary goal is to integrate MRD data.

> ***The idea behind the MDBC system is to provide one stop shopping for information on mineral titles, notices of work, assessment reports, mineral occurrences, mineral potential and bedrock geology.***

Data Architecture

Mineral Data BC was contructed after a comprehensive review of the business of data management was carried out for the Mineral Resources Division (BC Ministry of Energy, Mines & Petoleum Reources, 1994). The business plan identified the core sources of data required to carry out specific aspects of the Division's business. Following the business plan a system architecture was constructed based on a review of the various databases that currently exist within the Division. Finally, a system implementation plan was constructed which outlined how Mineral Data BC would be constructed.

The business plan identified the following databases as key elements for land use decision making:
· Mineral tenure

· Assessment report information (Assessment Report Indexing System - ARIS)
· Applications for work on staked ground (Notices of Work - NOW)
· Mineral occurrence information (MINFILE)
· Regional geology (1:250,000 compilation)
· Regional mineral potential (resource assessment)
· Locations of areas currently undergoing landuse planning

Sources of data reside in several different data and system architectures within the Division. Alignment of these data management facilities requires extensivie planning and modification that is realistically achieved over the long term. Additionally, some data is confidential and outside access to is considered as a potential security breach. In response to this, Mineral Data BC makes use of a data warehouse. A data warehouse is a database that is constructed to contain compatible views and structures from several different databases under one database architecture (Gold, 1994). This is illustrated schematically in Figure 1

. A data warehouse offers several advantages.
1) In a distributed data environment, access to several databases on several different systems is potentially slow and unreliable.
2) For real time data retrieval in an SQL environment, performance can be substantially reduced when several databases must be queried in order to compile a single result.
3) A data warehouse reduces the risk of security breaches. All transactions of the data are carried out in the warehouse.
A disadvantage of a data warehouse approach is that not all data from participating databases may be compatible in the data warehouse configuration and thus not all data will be accessible.

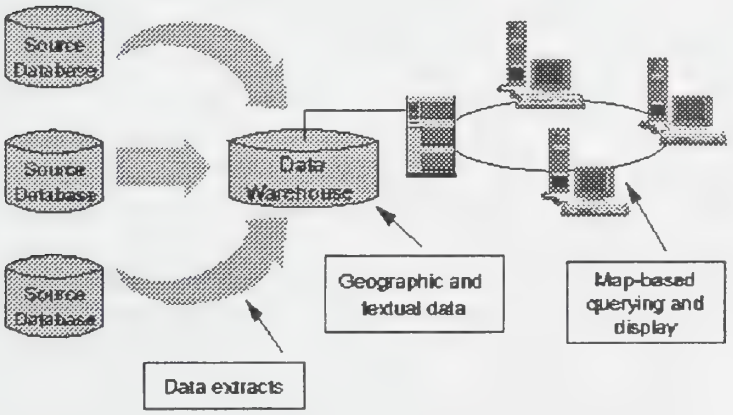

Figure 1: Mineral Data BC Architecture

Attributes of all of the databases are stored within the data warehouse. The exception to this is the display and querying of the Mineral Tenure attributes and maps. The Mineral Tenure maps are stored as two map types, raster and vector. The raster tenure maps represent the original hand drawn maps on which claims were originally recorded. Since 1991, all newly recorded mineral tenures are drawn on a vector based layer. As old claims are forfeited, the raster layer will "dissolve" and all claim data will be recorded on the vector layer. The attribute mineral titles database is not directly linked to the mineral

titles vector database. However, in Mineral Data BC, this linking has now been implemented

System Architecture and Design

Mineral Data BC has been constructed to take advantage of the computer networking services that are being established across the province. Regional offices will use network links to connect to the central data server in Victoria. Through network connections each regional office will have a "MDBC client" computer that links up with the main "MDBC server" which provides data to the regions. The central server contains the geology tenure and topographic maps as well as a "data warehouse" that contains all the corporate mineral division data bases. Figure 2 shows a schematic of the data warehouse client/server based system.

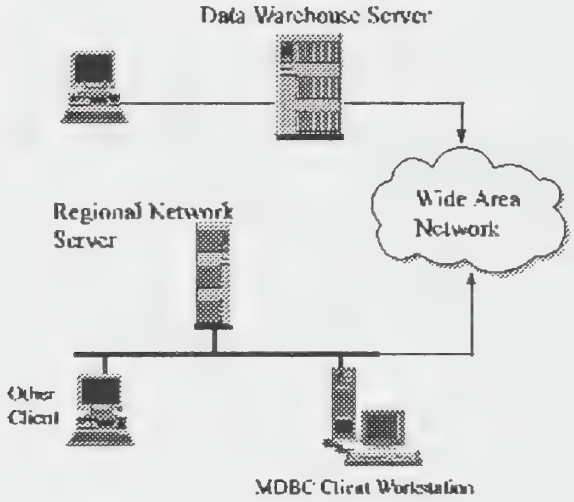

Figure 2: Network Architecture for Mineral Data BC.

The main advantage of a centrally based server is that it can be updated automatically. As information changes within any of the participating databases the clients automatically obtain any updates whenever data is loaded. Data loading schedules will be determined by the Data Administrator. Each MDBC client will be able to save their work on the local computer and bring up the saved information at any time. The MDBC server is a DEC Alpha Server 1000 running UNIX (OSF/1). The MDBC clients are PC's using Pentium processors.

Mineral Data BC uses both a PC based desktop mapping system and a server based database management system. MapInfo is the desktop mapping package that has been implemented on the PC client. MapInfo uses a SQL link with an ORACLE database to query the data warehouse. The results of the query are then transferred over the network and displayed in the MapInfo envrionment.

Networking MDBC with remote clients and external clients can be carried out in a number of ways. Currently, non-spatial data is retrieved from the SQL environment between MapInfo (on the client) and the Oracle database (on the server). Spatially referenced data can be retrieved through services such as Samba (a Microsoft Workgroups for Windows NFS-like package) or through simple FTP (file transfer protocol). In the most remote areas, where internet services are not available, the data warehouse can be

made available in the form of a CD-ROM which can be updated at regular intervals or on demand when the need arises.

Data Updates and Spatial Accuracy

In practice, MDBC faces many challenges. Each database has been developed over a long period of time and exist on different hardware and software platforms. The ability to integrate data from these diverse platforms has proven to be time consuming. Issues that surround some of the compatibility problems include:

· inaccurate locations of point data
· uknown or different map projections used to determine or display spatially reference data,
· maps such as those originally used for mineral titles (raster based maps) are very old and not accurate.
The solution to these problems is a planned migration path to a povincial map standard and a clearly defined set of rules for recording spatially referenced information. This approach, although long term in its scope is the most realistic way of dealing with a legacy of inconsistency in older data

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The Current Implementation

The initial design of MDBC was based on meetings with land-use planners and district inspectors from which a "vision" of the system was designed. It has been recognized that parts of the MDBC functionality and interface will evolve as a result of system evolution and development. Ongoing consultation with users will assist in developing system functionality and evolution such so as to suit as many requirements as possible. The development of MDBC represents a major step forward for the task of integrating data into a common desktop environment where various types of geo-referenced information can be viewed and queried. The user initially starts with an index map of the province displaying NTS maps sheets for the 1:250,000 scale. One or more contiguous maps sheets can then be loaded into the system. The system utilizes 1:250,000 scale topographic basemaps or regional geological maps. Information can also be viewed on 1 inch to 1/2 mile Mineral Tenure maps or 1:250,000 scale topographic, geological or mineral potential maps. Figure 3 shows a regional geological that has been compiled at a scale of 1:250,000. The regional geological maps, when used in conjunction with planning areas and the locations of tenures, minfile occurrences, etc. can assist in land use planning decisions.

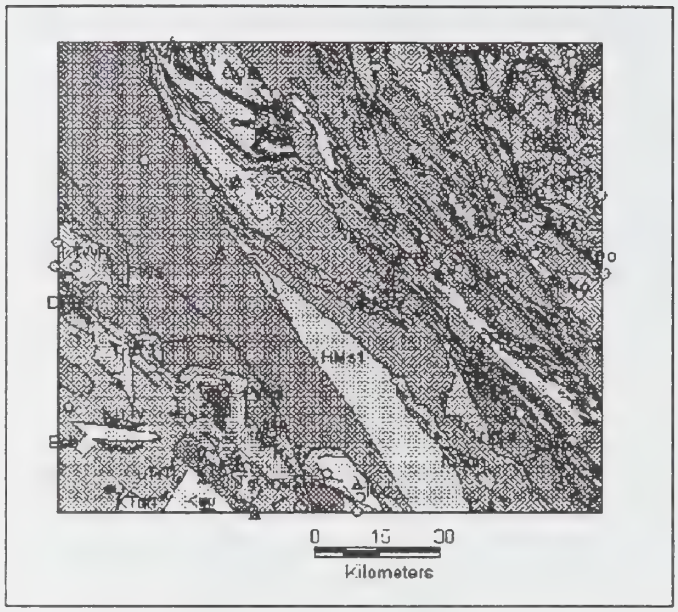

Figure 3: Regional Geological Map of NTS Sheet 94I

When examining tenures, notices of work, mineral occurrences at a more detailed scale, the topographic base can be used as displayed in Figure 4. This map displays a mineral tenures, and locations for applications for work, mineral occurrences and assessment reports for the map 094H03W. Inspectors and land use planners working at a detailed scale, can use such maps for greater accuracy in planning preparations.

MDBC will allow users to bring up any group of contiguous map sheets and thematic layers such mineral, placer and coal titles, Notices of Work, MINFILE, ARIS, Regional Geology, and Mineral Potential information. Locations of tenure are marked as lines and can be shown on the topographic1:250K basemaps, regional geological maps, or MIDA raster maps. Each thematic layer shows up as a different coloured symbol which identifies the type of information, i.e., ARIS data sites, MINFILE locations., etc.

By clicking on the symbol, the MDBC system retrieves information about that point and opens up a text box which lists the associated information.

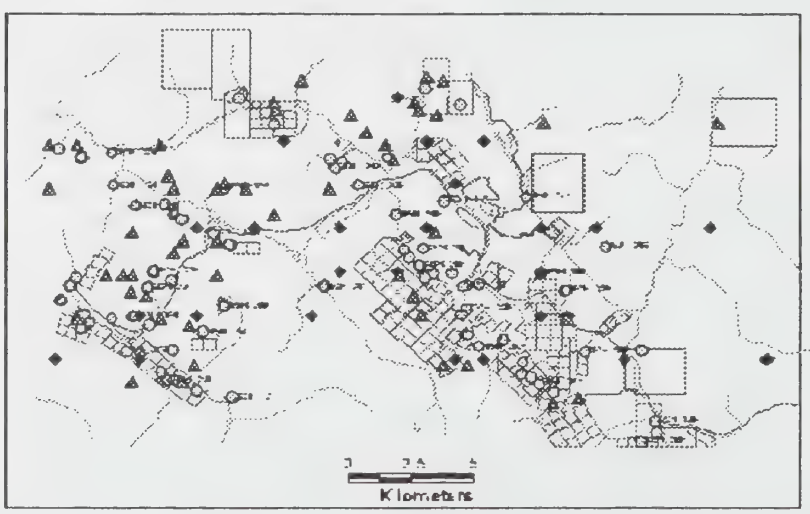

Figure 4: Mineral Tenures, Notices of Work, Assessment Reports and Mineral Occurrences for NTS Sheet 093H03W. Circles represent mineral occurrences, small squares are applications for work, triangles are assessment reports and mineral claims are outlined as various shaped rectangles. The data is projected onto a 1:250,000 topographic base map.

The most frequently used fields within each database are shown as determined by consultation with the regional land use planners. Within any given session, information that is retrieved is stored in a file that can be accessed in Word or Excel from Windows. Thus information can be compiled and analyzed further based on the spatial querying capabilities of MDBC.

Long Term Goals

Mineral Data BC is an attempt to integrate a diverse group of databases into an environment that can be used for effective decision making. Although initially, this system has been designed for the use of land use planners, it has significant potential for use across government at both the provincial and national levels. Although the inital release is based on a commercial map viewer (MapInfo) it is planned that MDBC will migrate towards a World WideWeb-based Map Brower that will ensure universal access to information for many possible client groups. Additonally, MDBC will be integrated with LandData BC, the provincial government's standard for sharing and exchanging data for better access to information and more effective decision making.

References

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